Areas Covered

Before Reading This Manual

This section explains the notes for your safety and conventions used in this manual. Make sure to read this section.

Chapter 1 Component Names and Functions

This chapter explains the component names and functions of the server.

Chapter 2 Security

This chapter explains the security features that are provided in order to protect the server hardware and software from theft.

Chapter 3 Standard Operations

This chapter explains such standard operations as turning the server ON/OFF and inserting and ejecting floppy disks.

Chapter 4 Installing Options

This chapter explains how to install and remove various options to the chassis.

Chapter 5 Maintenance

This chapter explains how to perform daily maintenance and the maintenance information.

Chapter 6 Technical Information

This chapter explains the specifications and operational notes of the server.

Before Reading This Manual

For Your Safety

This manual contains important information, required to operate the server safely.
Thoroughly review the information in this manual before using the server. Especially note the points under "Safety Precautions", and only operate the server with a complete understanding of the material provided.
This manual and "Safety Precautions" should be kept in an easy-to-access location for quick reference when using this server.

Data Backup

To protect data stored in this device (including basic software (OS) and application software), perform backup and other necessary operations. Note that data protection is not guaranteed when repairs are performed. It is the customer's responsibility to maintain backup copies in advance.
In case of data loss, Fujitsu assumes no liability for data maintenance or restoration and damages that occur as a result of the data loss for any reason, except for items covered under warranty.

High Safety

The Products are designed, developed and manufactured as contemplated for general use, including without limitation, general office use, personal use, household use, and ordinary industrial use, but are not designed, developed and manufactured as contemplated for use accompanying fatal risks or dangers that, unless extremely high safety is secured, could lead directly to death, personal injury, severe physical damage, or other loss (hereinafter "High Safety Required Use"), including without limitation, nuclear reaction control in nuclear facility, aircraft flight control, air traffic control, mass transport control, medical life support system, missile launch control in weapon system. You shall not use this Product without securing the sufficient safety required for the High Safety Required Use. If you wish to use this Product for High Safety Required Use, please consult with our sales representatives in charge before such use.

Problems may occur with this device in the event of an instantaneous voltage drop of the power supply due to lightning, etc. To prevent an instantaneous voltage drop of the power supply, we recommend that you use an uninterruptible power supply system.

Contents

This manual supports operation of the PRIMERGY BX600 S2 Blade Server System Unit. When operating with other chassis, refer to the relevant manuals in the Fujitsu PRIMERGY website (http://primergy.fujitsu.com).

Remarks

■ Warning Descriptions

Various symbols are used throughout this manual. These are provided to emphasize important points for your safety and that of others. The following are the symbols and their meanings. It is important to fully understand these symbols before reading this manual.

⚠WARNING	Ignoring this symbol could be potentially lethal.
⚠CAUTION	Ignoring this symbol may lead to injury and/or damage the server or internal options.

The following symbols are used indicate the type of warning or cautions being described.

	A triangle mark emphasizes the urgency of the WARNING and CAUTION. Details are described next to the triangle.
	A barred circle (⃠) warns against certain actions (Do Not). Details are described next to the circle.
	A black circle indicates actions that must be taken. Details are described next to the black circle.

■ Symbols

Symbols used in this manual have the following meanings:

Expression	Meaning
IMPORTANT	These sections explain prohibited actions and points to note when using this device. Make sure to read these sections.
POINT	These sections explain information needed to operate the hardware and software properly. Make sure to read these sections.
→	This mark indicates reference pages or manuals.

■ Key Descriptions / Operations

Keys are described by their representative characters instead of their exact key face appearance, as show below.

E.g.: [Ctrl] key, [Enter] key, [→] key, etc.

The following indicate the pressing of several keys at once:

E.g.: [Ctrl] + [F3] key, [Shift] + [↑] key, etc.

■ Entering Commands (Keys)

Command entries are displayed in the following way:

```
diskcopy  a:  a:
          ↑   ↑
```

- In the spaces indicated with the "↑" mark, press the [Space] key once.
- When using Windows, commands are not case sensitive.
- CD-ROM drive names are shown as [CD-ROM drive]. Enter your drive name according to your environment.

  [CD-ROM drive]:\setup.exe

■ Screen Shots and Figures

Screen shots and figures are used as visual aids throughout this manual. Windows, screens, and file names may vary depending on the OS, software, or configuration of the server used. Figures in this manual may not show cables that are actually connected for convenience of explanation.

■ CD-ROM Drive Descriptions

In this manual, both CD-ROM and DVD-ROM drives are described as CD-ROM drives. Unless otherwise noted, a CD-ROM drive can also mean a DVD-ROM drive.

■ Consecutive Operations

Consecutive operations are described by connecting them with arrows "→".

Example: Procedure of clicking the [Start] button, pointing to [Programs], and clicking [Accessories]

↓

Click [Start] → [Programs] → [Accessories].

■ Abbreviations

The following expressions and abbreviations are used throughout this manual.
In this manual, information other than the OS being used is also provided.

Product names	Expressions and abbreviations		
PRIMERGY BX600	The server or this server (Indicates the whole blade server system)		
PRIMERGY BX600 S2 Blade Server System Unit	Chassis or this chassis		
PRIMERGY BX620 S2 Server Blade	BX620 S2 Server Blade	server blade	
PRIMERGY BX620 S3 Server Blade	BX620 S3 Server Blade		
PRIMERGY BX600 Switchblade 10+3 × 10/100/1000TX layer2	Switch Blade		
PRIMERGY BX600 FC Pass-Thru Blade	FC Pass-Thru Blade		
PRIMERGY BX600 GbE Pass-Thru Blade	GbE Pass-Thru Blade		
PRIMERGY BX600 Management Blade	Management Blade		
Microsoft® Windows Server™ 2003 R2, Standard x64 Edition	Windows Server 2003 R2, Standard x64 Edition or Windows Server 2003 R2 x64	Windows Server 2003 *2	Windows
Microsoft® Windows Server™ 2003 R2, Enterprise x64 Edition	Windows Server 2003 R2, Enterprise x64 Edition or Windows Server 2003 R2 x64		
Microsoft® Windows Server™ 2003 R2, Standard Edition	Windows Server 2003 R2, Standard Edition or Windows Server 2003 R2		
Microsoft® Windows Server™ 2003 R2, Enterprise Edition	Windows Server 2003 R2, Enterprise Edition or Windows Server 2003 R2		
Microsoft® Windows Server™ 2003, Standard x64 Edition	Windows Server 2003, Standard x64 Edition or Windows Server 2003 x64 *1		
Microsoft® Windows Server™ 2003, Enterprise x64 Edition	Windows Server 2003, Enterprise x64 Edition or Windows Server 2003 x64 *1		
Microsoft® Windows Server™ 2003, Standard Edition	Windows Server 2003, Standard Edition		
Microsoft® Windows Server™ 2003, Enterprise Edition	Windows Server 2003, Enterprise Edition		
Microsoft® Windows® 2000 Server	Windows 2000 Server	Windows 2000 Server	
Microsoft® Windows® 2000 Advanced Server	Windows 2000 Advanced Server		
Red Hat® Enterprise Linux® AS (v.3 for x86)	Linux		
Red Hat® Enterprise Linux® ES (v.3 for x86)			
Red Hat® Enterprise Linux® AS (v.4 for x86)			
Red Hat® Enterprise Linux® ES (v.4 for x86)			
Red Hat® Enterprise Linux® AS (v.4 for EM64T)			
Red Hat® Enterprise Linux® ES (v.4 for EM64T)			

*1: Unless otherwise specified, R2 is also included in "Windows Server 2003 x64".
*2: Unless otherwise specified, R2 is also included in "Windows Server 2003".

Warning and Caution Labels

Warning and caution labels are found in various locations on the server.
Do not remove or stain these labels.

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Screen shot(s) reprinted with permission from Microsoft Corporation.

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Chapter 1

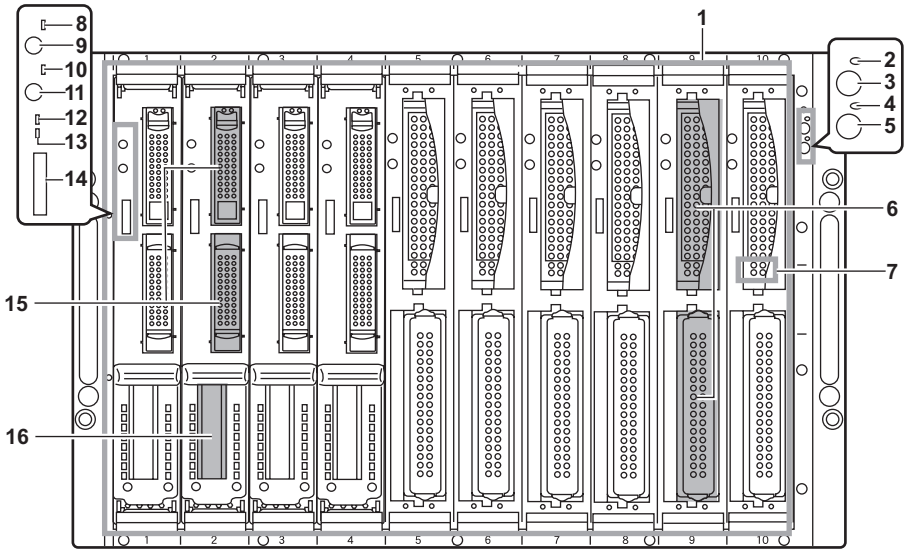
Component Names and Functions

This chapter explains the component names and functions of the server.

1.1 Server (Front View) 10
1.2 Server (Rear View) 12

1.1 Server (Front View)

The following are the component names of the server (front view).



*:The Server Blade diagram shown in this manual shows one possible setup pattern.

1 Server blade slots 1-10

This is where server blades or dummy server blades are installed. The server blade slot numbers are displayed on the chassis.

A total of nine dummy server blades come included with the chassis by default. Server blades are not included with the chassis by default.

2 Main power LED (⏻)

LED status	Server Status
ON (Green)	The main power supply of the chassis is ON.
ON (Amber)	The AC power is ON but the main power supply of the chassis is OFF.
OFF	The main power supply or the AC power of the chassis is OFF.

3 Main Power Switch

Pressing this switch starts the system fan unit and the Switch Blades.

⚠CAUTION

Do not turn the server off when the hard disk access display LED is on. The data stored on the hard disk may be damaged.

4 Front maintenance switch LED (ID)

This works in conjunction with the rear maintenance LED and lights/blinks in the following situations.

LED status	Server Status
Blinking (Amber)	An error in an internal component of the server has been detected. Contact an office listed in the "Contact Information" of "Start Guide" or device administrator.
ON (Amber)	This can be turned on by pressing the front maintenance switch or using the "System Indication LED Display" function in the management terminal. For details about the "System Indication LED Display" function refer to "BX600 Management Blade Hardware Guide" and "ServerView User's Guide".

5 Front maintenance switch

Pressing this switch turns the front and rear maintenance switch LEDs ON.

6 3.5-inch storage bay

Contains a BX620 S2 Server Blade internal hard disk unit.

The expansion card slot module (optional) can be installed to bay 2.

7 Hard disk status LED ( )

Displays the status of the hardware disk unit installed where the LED is positioned.

The meaning of various LEDs is as follows.

- Hard disk access display LED ( )

  This LED is lit in green when data is being written to or read from the hard disk.

- Hard disk failure LED ( )

  In an array system configuration, this LED is lit in amber when an error is detected in the internal hard disk unit.

  This LED lights or blinks depending on the status of the hard disk as follows.

LED status	Hard disk status
OFF	In normal mode or hot spare mode
ON (Amber)	Error detected in the hard disk (in an array configuration)
Blinking (Amber)	Rebuilding or faulty hard disk replacement in progress

8 Server blade power LED ( )

9 Server blade power switch

10 KVM select LED ( )

11 KVM select switch

Selects the keyboard/display/mouse.

12 Fibre Channel active link display LED (I/O)

13 LAN active link display LED ( )

This LED lights or blinks depending on the status of the server blade LAN transmission as follows.

LED status	Server status
ON (Green)	Establishing link at either LAN port
Blinking (Green)	Sending/receiving data via LAN

14 Display/USB expansion connector

15 2.5-inch storage bay

Contains a BX620 S3 Server Blade internal hard disk unit.

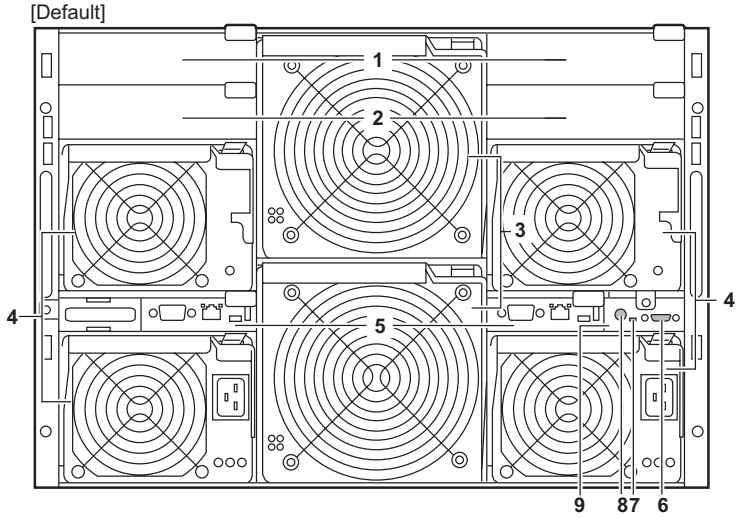
16 Expansion card slot

When an Expansion Card Slot Module has been selected in the BX620 S3 Server Blade, an expansion card can be installed.

1.2 Server (Rear View)

The following are the component names of the server (rear view).

[Default]



1 Network blade slot 1/2
The slot number is "NET1" and "NET2" displayed on the chassis.
Up to two Switch Blades or GbE Pass-Thru Blades, etc. can be installed.

2 Network blade slot 3/4
The slot number is "NET3" and "NET4" displayed on the chassis. Up to two Switch Blades, GbE Pass-Thru Blades or FC Pass-Thru Blades, etc. can be installed.

3 System fan unit

4 Power Supply Unit (PSU) 4/3/2/1
The PSU is installed in slot 1/2 and the dummy PSU is installed in 3/4 by default.
There are 2 chassis cooling fans and 1 power cooling fan installed in the PSU.
There are 3 chassis cooling fans installed in the dummy PSU. The dummy PSU does not supply power.
When added to the PSU it enables redundancy of the power supply.

5 Management Blade
Two Management Blades are installed by default. The redundant management function can be used.

6 KVM connector
Connect the KVM cable and then connect the keyboard, display and mouse.

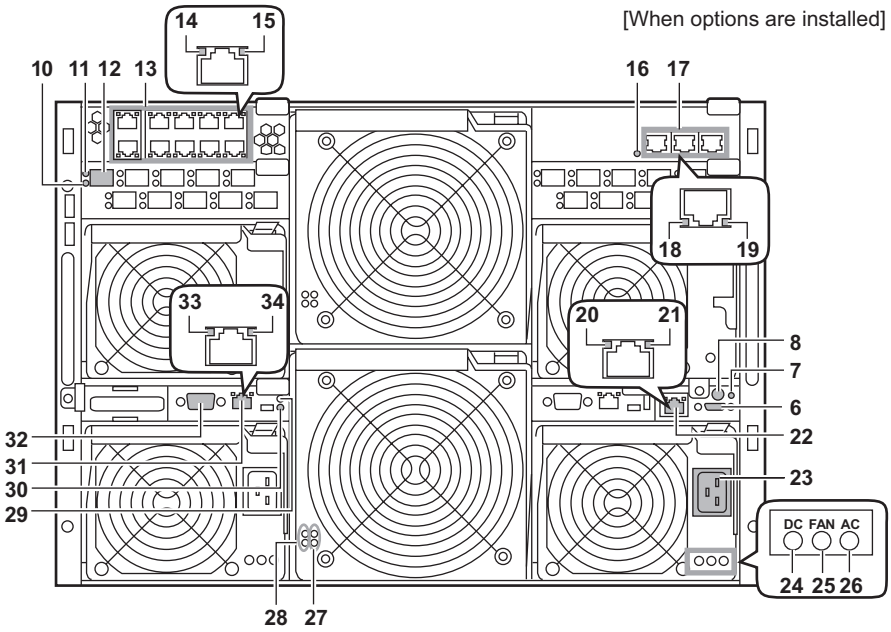
7 Rear maintenance LED
This works in conjunction with the front maintenance LED and lights/blinks in the cases below. The LED colors vary depending if the default KVM module is used or an optional advanced KVM module is installed.

LED status		Server Status
Default	Advanced KVM module	
Blinking (Amber)	Blinking (Green)	An error in an internal component of the server has been detected. Contact an office listed in the "Contact Information" of "Start Guide" or device administrator.
ON (Amber)	ON (Green)	This can be turned on by pressing the front maintenance switch or using the "System Indication LED Display" function in the management terminal. For details about the "System Indication LED Display" function refer to "BX600 Management Blade Hardware Guide" and "ServerView User's Guide".

8 Rear maintenance switch (ID)
Pressing this switch turns the front and rear maintenance switch LEDs ON.

9 KVM module slot
One KVM module is installed. When installing an optional advanced KVM module, a LAN connector (10BASE-T/100BASE-TX) for remote console is also added apart from the parts listed in 6 - 8.

[When options are installed]



*: For device options not shown in this manual, refer to the “PRIMERGY ServerBooks” supplied with the server, and the “Supplement” supplied with each option.

10 Fibre Channel error LED

11 Fibre Channel link LED

FC Pass-Thru Blade (option) LED. The error and link LEDs light/blink depending on the status of the server.

LED status		Server Status
Link LED	Error LED	
OFF	OFF	A Fibre Channel Expansion Board is not installed in the server blade of the target connector or the power of the server blade is off.
ON (Green)	ON (Amber)	A Fibre Channel Expansion Board is installed in the server blade of the target connector and the power of the server blade is on.
ON (Green)	OFF	The fibre channel card in the server blade of the target connector is online.
OFF	ON (Amber)	The fibre channel card in the server blade of the target connector is offline.
OFF	Blinking (Amber)	A link has not been established with the external fibre channel device.
Blinking (Green)	Blinking (Amber)	There is an error in the Fibre Channel Expansion Board installed in the server blade of the target connector or the FC Pass-Thru Blade. Contact an office listed in the "Contact Information" of "Start Guide" or device administrator.

12 Fibre Channel connector

Install the optional SFP module (For users using 2Gbit/s FC I/O Module (PG-FCD101) the SFP module is supplied with the expansion board.) and connect to the fibre channel device.

13 1000BASE-T connector

This is the external connection LAN connector of the GbE Pass-Thru Blade (option).

14 LAN active LED

It blinks depending on the LAN transfer status of the GbE Pass-Thru Blade as follows.

LED status	Server Status
Blinking (Amber)	Data is being transferred

15 LAN link LED

It lights up depending on the LAN connection status of the GbE Pass-Thru Blade as follows.

LED status	Server Status
ON (Green)	LAN link is being established

16 Switch Blade maintenance LED

It is possible to make the LED blink (amber) by using a Switch Blade identification function. Refer to "BX600 Management Blade Hardware Guide".

17 10/100/1000BASE-T connector

This is a Switch Blade (option) LAN connector.

18 LAN speed LED

It lights depending on the LAN data transfer speed of the Switch Blade as follows.

LED status	Server Status
ON (Amber)	Operating at 1000Mbps
ON (Green)	Operating at 100Mbps
Off	Operating at 10Mbps

19 LAN link/operation LED

It lights or blinks depending on the LAN connection status of the Switch Blade as follows.

LED status	Server Status
ON (Green)	LAN link is being established
Blinking (Green)	Data is being transferred
OFF	The link is not established or the connector is disabled.

20 LAN active LED

It blinks depending on the LAN transfer status of the advanced KVM module as follows.

LED status	Server Status
Blinking (Green)	Data is being transferred

21 LAN link LED

It lights depending on the LAN connection status of the advanced KVM module as follows.

LED status	Server Status
ON (Amber)	Operating at 100Mbps
OFF	Link is not established or LAN link is being established at 10Mbps

22 10BASE-T/100BASE-TX connector

This is an advanced KVM module (option) connector. Used for remote console.

23 Inlet

An AC power cable is plugged in.

24 DC Power LED

It lights depending on the status of the DC power of the PSU as follows.

There is no DC power LED in the dummy PSU.

LED status	Server Status
ON (Green)	Operating normally.
OFF	DC power is not supplied to each server blade. When this LED is OFF while AC power is supplied and the main power of the chassis is on, there is an error in the PSU. Contact an office listed in the "Contact Information" of "Start Guide"or device administrator.

25 Warning LED

It lights depending on the status of the PSU as follows.

LED status	Server Status
ON (Amber)	There is an error in the PSU. Contact an office listed in the "Contact Information" of "Start Guide" or device administrator.
OFF	Operating normally.

26 AC Power LED

Lights or blinks depending on the status of the AC power of the PSU as follows.

There is no AC power LED in the dummy PSU.

LED status	Server Status
ON (Green)	AC power is supplied to the PSU.
OFF	AC power is not supplied.

27 System fan module LED

The LED is lit in green when a fan module is installed in the system fan unit. The upper LED is for fan module 1 and the lower LED is for fan module 2.

28 System fan module error LED

The LED is lit in amber when an error is detected in the fan module installed in the system fan unit. The upper LED is for fan module 1 and the lower LED is for fan module 2.

29 Management Blade master LED

It lights depending on the Management Blade operation status as follows.

LED status	Server Status
ON (Green)	Operating in master mode
OFF	Operating in slave mode

30 Management Blade error LED

It lights or blinks when a Management Blade error occurs as follows. If this LED lights or blinks, contact an office listed in the "Contact Information" of "Start Guide" or device administrator.

LED status	Server Status
ON (Amber)	A Management Blade error has occurred (non redundant Management Blade configuration)
Blinking (Amber)	A Management Blade error has occurred (redundant Management Blade configuration)
OFF	Operating normally.

31 10BASE-T/100BASE-TX connector ( )

An Unshielded Twisted Pair (UTP) cable is plugged in.

32 Serial port connector (9- pin) ( )

Connect using an RS-232C cross cable.

33 LAN active LED

Blinks depending on the status of the Management Blade LAN transfer as follows. Also it may blink uniformly when NIC diagnostic function of the Management Blade is used.

LED status	Server Status
Blinking (Amber)	Data is being transferred

34 LAN link LED

Lights depending on the connection status of the Management Blade LAN as follows.

LED status	Server Status
ON (Green)	LAN link is being established

Chapter 2

Security

This chapter explains the security features that are provided in order to protect the server hardware and software from theft.

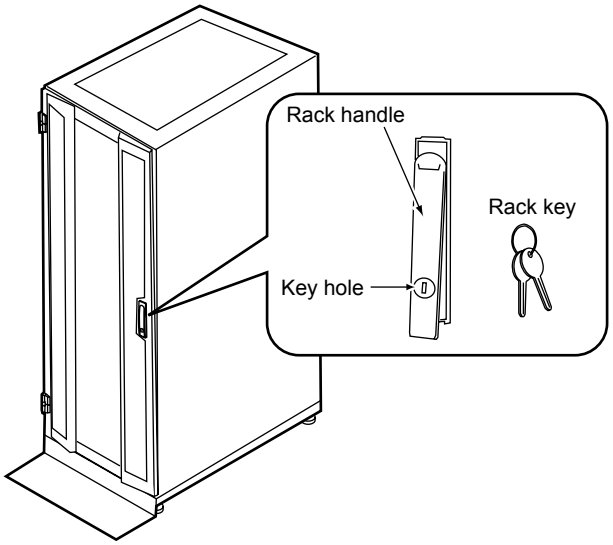
2.1 Security 18

2.1 Security

Security features are provided in order to protect the server hardware and software from theft. Additional security functions provided by the BIOS Setup Utility are also available to help maintain a highly reliable data security system.

2.1.1 Hardware Security

Lock the rack door to protect the hardware in the rack from theft.
To close the rack door, shut the door and return the rack handle, and turn the rack key.



POINT

- Do not lose the rack key. If the key is lost, contact an office listed in the "Contact Information" of "Start Guide".
- For instructions on opening the rack door, refer to "3.1 Opening the Rack Door" (→pg.22).
- The above explanation is based on the 40U standard rack. For details about other rack systems, refer to their respective manuals.

2.1.2 Software Security

A password can be set to prevent unauthorized use of the server.
If a password is set, people who do not know the correct password cannot use the server.
Perform password settings in the following blades.
For details about the settings of other optional devices, refer to the "PRIMERGY ServerBooks" supplied with the server, and the "Supplement" supplied with each option.

- **Management Blade**
  For details, refer to "BX600 Management Blade Hardware Guide".
- **Switch Blade**
  For details, refer to "BX600 Switch Blade (PG-SW103) Hardware Guide".
- **Server blade**
  For details, refer to "User's Guide".

Chapter 3

Standard Operations

3

This chapter explains such standard operations as turning the server ON/OFF and inserting and ejecting floppy disks.

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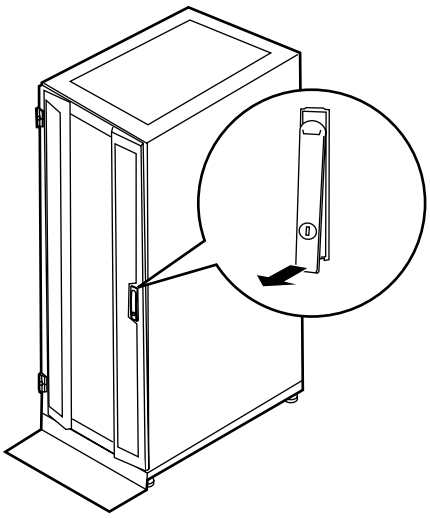
3.2 Turning On the Server 24
3.3 Turning Off the Server 26
3.4 Inserting and Ejecting a Floppy Disk 28
3.5 CD-ROM Drive 30
3.6 KVM Switch 32

3.1 Opening the Rack Door

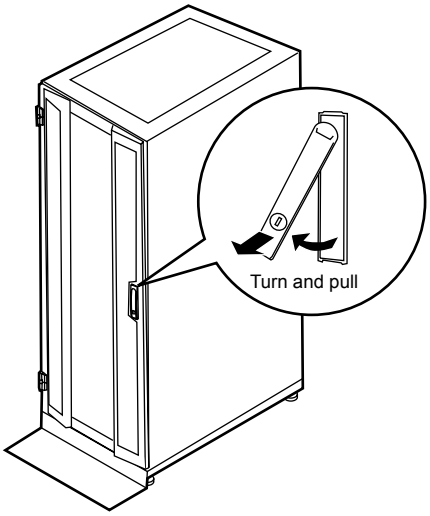
This section explains how to open the front and rear doors of the 40U standard rack. Refer to the manual provided with the rack for procedures on opening other rack doors.

■ Opening the Front Door

1 Turn the rack key and pull the rack handle up.

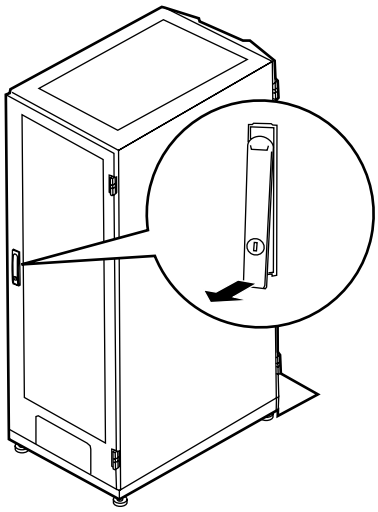


2 Turn the handle in the direction of the arrow and pull.

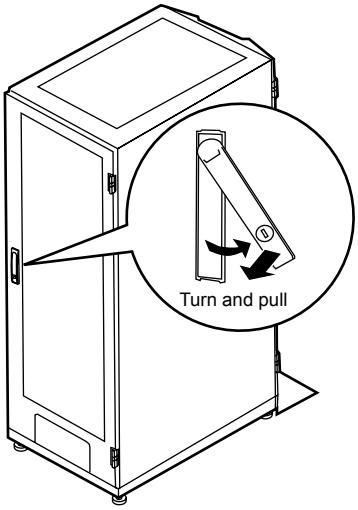


■ Opening the Rear Door

1 Turn the rack key and pull the rack handle up.



2 Turn the handle in the direction of the arrow and pull.



POINT

- Unless you are inserting/ejecting media or turning the power on/off, keep the door closed. Doing so blocks electric waves from cell phones, etc.
- Do not lose the keys. If the key is lost, contact an office listed in the "Contact Information" of "Start Guide".

3.2 Turning On the Server

CAUTION

Do not

- Do not move, strike, or shake the server when it is turned on. Doing so may damage the hard disk and cause data to be lost.

- Turn the server on when the temperature is in its operating environment range (10-35°C). For details about the operating environment, refer to "Start Guide" and "Safety Precautions".
  When operating the device outside of this operating environment, the server may operate improperly, damage data etc.
  When operating the device outside of this operating environment, Fujitsu cannot be held responsible for any related damage, malfunction, or loss of data, etc.
- The fans rotate at high speed immediately after the power of the chassis is turned on, but this is not defective.
  When the temperature is within the server's operating environment range (10-35°C), they will start to rotate at normal speed later.
- Do not turn on the main power supply of the chassis until at least 2 minutes has passed since the power supply cable was plugged in.
- Be sure to wait for 10 seconds or longer after shutdown of the main power supply of the chassis or the server blade before turning the server on.

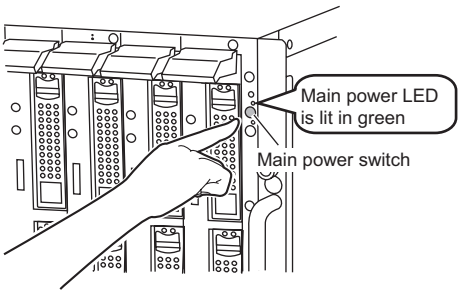
1 Open the rack door.

→"3.1 Opening the Rack Door" (pg.22)

2 Power on the display and peripheral devices.

3 Press the main power switch on the front of the chassis.

Press the switch until the main power supply LED of the chassis turns green.



POINT

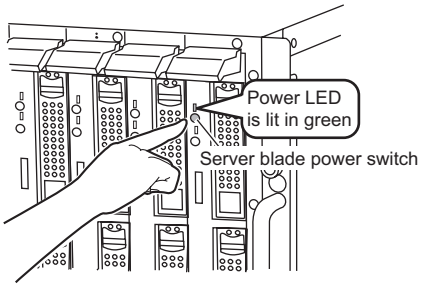
- Pressing this switch starts the system fan unit and the Switch Blades. It takes about one minute for the Switch Blades to become fully operational.
  Power will be distributed to the server blade but the server blade will not be activated until its power is turned on.

4 Press the power switch of the server blade.

Server blade is activated.

When the power is turned on, the server blade performs Power On Self Tests (POST). If any abnormalities are detected by POST, error messages are displayed.

→ "User's Guide 9.2 Troubleshooting"



IMPORTANT

- When server blade is set to network activation (PXE), after turning on the main power supply of the chassis, wait at least one minute before turning on the power of the server blade.
  In that time, the Switch Blade is not completely activated or the reconfiguration of the network is not complete.

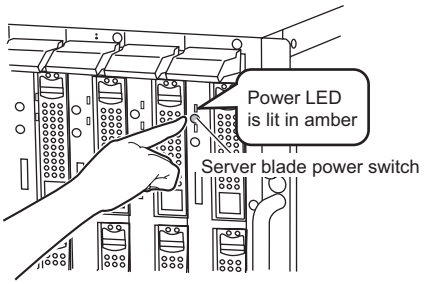
3.3 Turning Off the Server

CAUTION

- Follow the procedure below to turn off the server. Data can be lost if this procedure is not followed correctly.
- In the event of smoke or sparks, immediately unplug the power plug from the outlet. Failure to do so may lead to a fire or electric shock.

1 Exit the OS operating on each server blade.

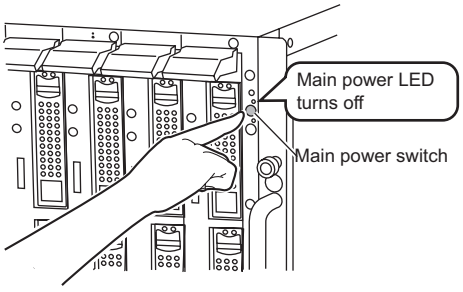
After exiting the OS the power of the server blade automatically turns off and the server blade power LED is lit in amber.
If the server power does not turn off even after exiting the OS, confirm that the hard disk access LED is not lit and then press the power switch of the server blade.



- Be sure to wait for 10 seconds or longer after server blade shutdown before turning the server on. If the power is turned on straight after shutdown, it may cause a server error or failure.
- Wait for 20 seconds before removing the server blade from the chassis or unplugging the chassis power cable after server blade shutdown.

2 Press the main power switch on the front of the chassis.

Press the switch until the main power supply LED of the chassis turns off.



- Be sure to wait for 10 seconds or longer after shutdown before turning the server on. If the power is turned on straight after shutdown, it may cause a server error or failure.
- Be sure to wait at least 30 seconds before removing power cables after turning off the main power.

3 Power off the display and peripheral devices.

POINT

- The server can be remotely turned on/off from the management terminal using Management Blade.
  →"BX600 Management Blade Hardware Guide"
- The power supply of each server blade can be turned off remotely from the management terminal using the attached ServerView software. For details, refer to "3.2 Monitoring Server" in "ServerView User's Guide" in the PRIMERGY Document & Tool CD.

■ Notes on power supply operations (for Windows)

The following modes can be specified for the server blade power switch using the OS settings.

- For Windows Server 2003
  "Do Nothing", "Prompt Input", "Standby", "Hibernation", or "Shut down" (normally, "Shut down" is specified).
- For Windows 2000 Server
  "Standby", "Hibernation", "Power off" (normally "Power off" is specified).

On this server blade, functions corresponding to "Standby" and "Hibernation" are supported as BIOS and hardware functions. However, some drivers and software installed in the server blade do not support these functions. For this reason, functions corresponding to "Standby" and "Hibernation" are unavailable on this server.
When the operating mode is set to "Standby" or "Hibernation", the system may operate improperly or hard disk data may be corrupted.
For details about operating mode settings, refer to the OS manual.

POINT

- For Windows Server 2003, by changing the power switch operating mode "Do Nothing", or "Prompt Input", prevents the OS being shutdown by mistakenly pressing the power switch during operation.

3.4 Inserting and Ejecting a Floppy Disk

Inserting and ejecting a floppy disk is described below.

3.4.1 Cautions

Note the following points when handling floppy disks.

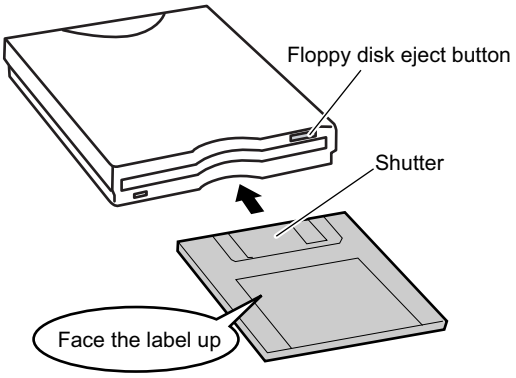
- Do not expose the floppy disk to any fluids.
- Do not open the shutter of the floppy disk and touch the disk surface.
- Do not bend the floppy disk or place heavy objects on it.
- Do not expose the floppy disk to strong magnetic fields.
- Do not drop the floppy disk on hard surfaces.
- Do not store the disk in extremely hot or cold conditions.
- Do not put layers of labels on the floppy disk.
- Keep the floppy disk away from condensation or water droplets.

3.4.2 Inserting and Ejecting a Floppy Disk

■ Inserting the Floppy Disk

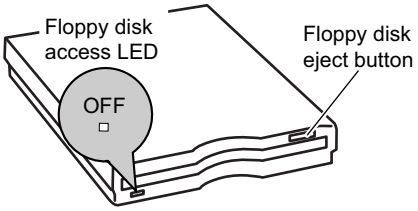
1 Use the USB Cable and connect a floppy disk drive to the server blade.
→"Start Guide"

2 Insert the floppy disk drive from the side with the shutter.
After clicking into place, the floppy disk eject button pops out.



■ Ejecting the Floppy Disk

Make sure that the floppy disk access LED is off. Press the floppy disk eject button.
The floppy disk is ejected.



CAUTION

- Do not eject the floppy disk while the floppy disk access LED is on. The data stored on the floppy disk may be damaged.

3.5 CD-ROM Drive

This manual describes the points to note when handling a CD-ROM drive or CD-ROM.
For details about inserting/ejecting the CD-ROM, refer to the manual supplied with the CD-ROM drive.

POINT

- This server does not support CD-R/RW write.

3.5.1 Cautions

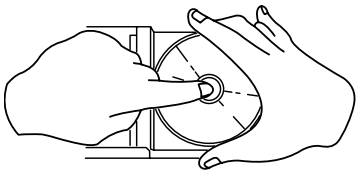
Note the following points when handling CD-ROM drives or CD-ROMs to prevent failure.

■ CD-ROM drive

- Do not use in a humid or dusty place. Also, pouring liquids such as water or inserting metal objects such as clips into the drive may cause a device failure, fire, or electric shock.
- Use the device on a shock-and-vibration free surface.
- Do not insert anything but specified CD-ROMs in the CD-ROM tray.
- Do not use force to pull out or press in the CD-ROM.
- Do not disassemble the CD-ROM drive unit.
- Clean the CD-ROM tray before use. Use a dry cloth to clean the CD-ROM tray.
- If out of use for a long period of time, in order to prevent an accident eject the CD-ROM from the CD-ROM drive. Also to prevent dust getting into the CD-ROM drive unit keep the CD-ROM tray closed.

■ CD-ROM

- When removing a CD-ROM from its case press on the centre of the case as shown below.



- Hold the rim of the CD-ROM and do not touch the surface.
- Do not allow fingerprints, oil or dust on the surface of the CD-ROM. If the CD-ROM becomes dirty wipe it using a soft dry cloth wiping from the inside towards the outside. Do not wipe using benzene, paint thinner, water, record spray, static guard, or silicon cloth.
- Be careful not to scratch the surface of the CD-ROM.
- Do not apply heat.
- Do not bend the CD-ROM or place heavy objects on it.
- Do not or apply ball-point pen or pencil to the printable side of the CD-ROM.

- Do not attach labels to the printable side of the CD-ROM. Doing so can unbalance the CD-ROM and result in abnormal vibration.
- If a CD-ROM is moved suddenly from a cold area outdoors to a warm area, water droplets will appear on the surface and the CD-ROM drive unit may not be able to read the data. In this case wipe with a soft, dry cloth and then leave to dry naturally. Do not dry using a hair dryer etc.
- To prevent dust, scratches and changing shape store in a case when not in use.
- Do not store in areas with direct sunlight, near heating appliances or in areas of high temperature.

3.6 KVM Switch

The inputs/outputs of the keyboard/display/mouse (KVM) of various server blades are connected to the KVM connector of the KVM module or advanced KVM module installed in the chassis using the KVM switch in the chassis.

Perform KVM switching operations using one of the following methods.

- **Press the KVM select switch of the server blade.**
- **Use the Management Blade from the management terminal and perform switching operations.**
  → "BX600 Management Blade Hardware Guide"

IMPORTANT

- When KVM switching operations are performed consecutively, confirm that the selected server blade has completely switched, by checking the KVM selected LED or the display screen, before performing the next operation.

Chapter 4

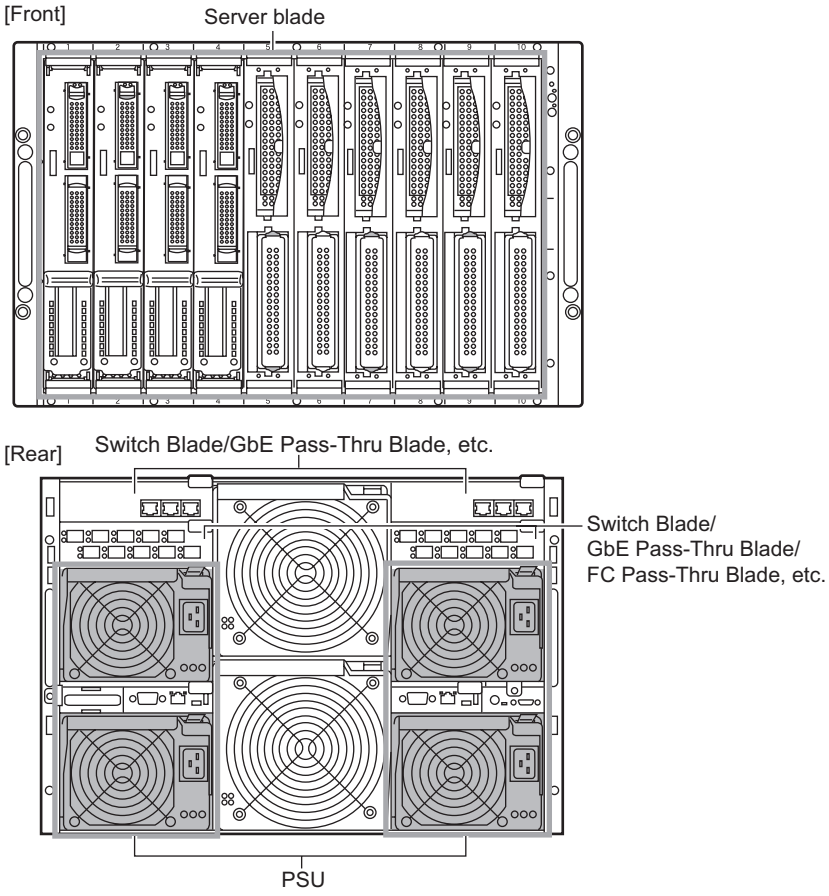
Installing Options

This chapter explains how to install and remove various options to the chassis.

4.1 Options 34
4.2 Installing Server Blades 36
4.3 Installing Network Blades 42
4.4 Installing the PSU 49
4.5 Installing Advanced KVM Module 53
4.6 Replacing the Management Blade 57
4.7 Replacing the System Fan Unit 58

4.1 Options

It is possible to install the following blades and PSUs to the chassis.
For details about device options not shown in this manual, refer to the "PRIMERGY ServerBooks" supplied with the server, and the "Supplement" supplied with each option.



Electric Shock

- Do not disassemble the PSU. Doing so may cause electric shock.

Do not

- Do not install unauthorized third party internal options. Doing so may cause a device failure, fire, or electric shock.
- Do not damage or modify internal cables or devices. Doing so may cause a device failure, fire, or electric shock.

CAUTION

- Before handling options, first touch a metal part of the chassis to discharge static electricity.
- Do not touch the circuitry on boards. Hold the brackets or the edges of the circuit boards.
- If devices are installed or removed other than by the methods outlined in this chapter, the warranty will be invalidated.

4.2 Installing Server Blades

For this server, even when the power supply of the chassis is turned on, it is possible to install/remove (hot-swap/hot-plug) server blades.
This section explains how to install/remove server blades.
For details about server blade, refer to "User's Guide" supplied with the server blade.

4.2.1 Before Installing

■ Notes when installing and removing

Server blades can be installed/removed when the main power of the chassis is turned on. In this case note the following points.

CAUTION

- Always turn off the power of the server blade.
  →"3.3 Turning Off the Server" (pg.26)
- Check that the system fan unit is operating correctly before installing or removing the blade server. If it is broken, the blade server cannot be installed/removed during operation.
- Because the heat sink area of the server blade reaches high temperatures, do not touch it directly after removal.
- Be careful not to pinch fingers or clothes. This may cause injury.

Electric Shock

- When removing the server blade or dummy server blade, do not insert your hand into the server blade slot. Doing so may cause electric shock.

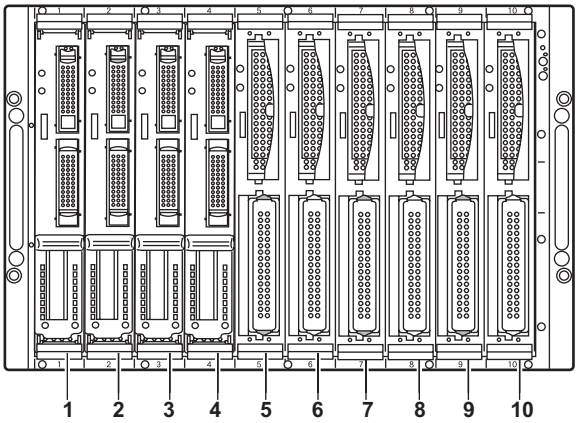
■ Installable server blade

The following server blade can be installed to the chassis.

- BX620 S2 Server Blade
- BX620 S3 Server Blade

■ Server blades installation points

When the server blade is installed to the server blade slot, the LAN port of the server blade is connected to each port of the Switch Blade through the middle plain in the chassis. Decide the slot to which to install the server blade according to the network configuration.
For more details, refer to "4.2.3 LAN Connection in the Chassis" (→pg.40).
The server blade slot numbers are indicated below.



IMPORTANT

- If the Switch Blades or GbE Pass-Thru Blades that correspond with the various ports of the server blade are not installed, the port cannot be used.

4.2.2 How to Install and Remove

■ How to remove server blades

1 Turn off the server blade.

Turn off the server blade you wish to remove.
→"3.3 Turning Off the Server" (pg.26)

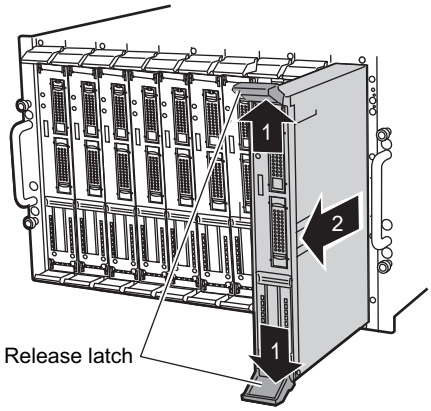
2 Touch a metal part of the chassis to discharge static electricity.

3 Remove all cables etc. connected to the server blade.

Remove the display/USB cables connected to the server blade you wish to remove, as well as cables connected to the expansion card slot module.

4 Remove the server blade.

Push the release latch of the server blade outwards and unlock the lock (1), pull the server blade and remove (2).
Use both hands to pull out the server blade.



5 Installing the server blade/ dummy server blade.

→"■ How to install a server blade" (pg.38)

IMPORTANT

- When multiple server blades are installed to the chassis, before removing, use the server blade identification function to check the position of the server blade. For details about the server blade identification function refer to "BX600 Management Blade Hardware Guide".
- After removing the server blade or dummy server blade, do not operate the chassis with an empty slot. Be sure to install a server blade or a dummy server blade.

POINT

- The procedure for removing the dummy server blade is the same as that for removing the server blade.
  Be sure to keep the removed dummy units for later use.

■ How to install a server blade

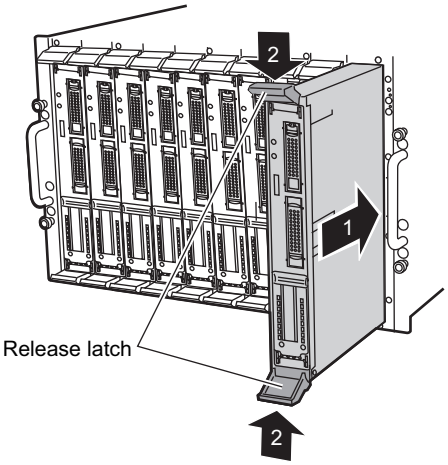
1 Remove the server blade/ dummy server blade.

Remove any server blade/ dummy server blade installed to the slot for installation (No server blade/ dummy server blade is installed at the time of purchase. This procedure is not required for the first installation).

→"■ How to remove server blades" (pg.37)

2 Installing the server blade.

Open the release latch and insert the server blade (1). When inserted, close the release latch to complete insertion (2).



IMPORTANT

- Before installing the server blade, check there is no dust in the blade connector.
- Before closing the release latch, make sure the server blade is inserted completely to the slot.

POINT

- The procedure for installing the dummy server blade is the same as that for installing the server blade.

3 Disconnect cables when using the expansion card slot module.

POINT

- When drawing out the cables connected to the expansion card slot, create space in the lower part of the chassis and pull towards the back of the server.

4.2.3 LAN Connection in the Chassis

This section explains the LAN connection in the chassis for server blades and Switch Blades or GbE Pass-Thru Blades.

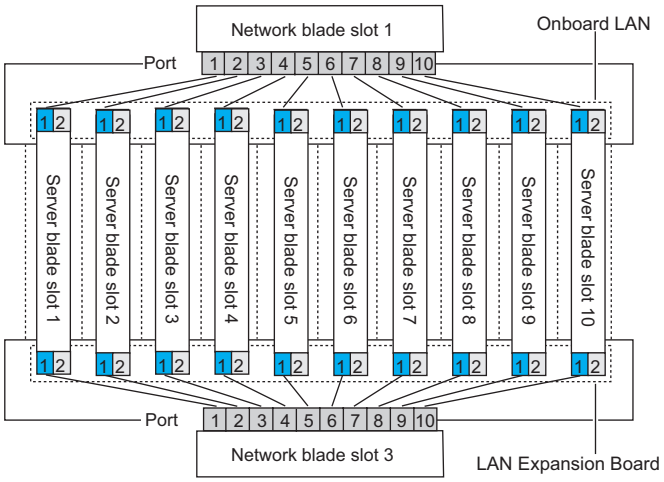
The LAN ports for server blades and Switch Blades or GbE Pass-Thru Blades are connected as follows in the chassis. Decide the slot to which to install the server blade or Switch Blade/GbE Pass-Thru Blade according to the network configuration.

POINT

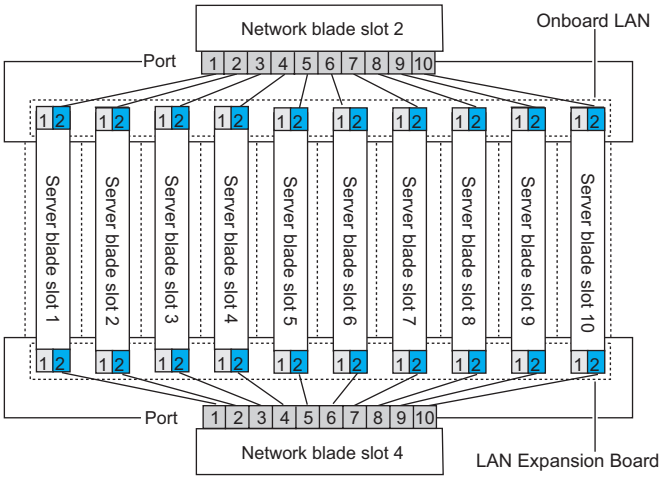
- When installing a Switch Blade or GbE Pass-Thru Blade to the network blade slot 3 or 4, the LAN port can be used by installing the LAN Expansion Board to the server blade. For details, refer to the LAN Expansion Board manual.

■ For BX620 S2 / BX620 S3 Server Blade

- **Network blade slot 1/3 (NET1 /NET3)**



- **Switch Blade slot 2/4 (NET2 /NET4)**

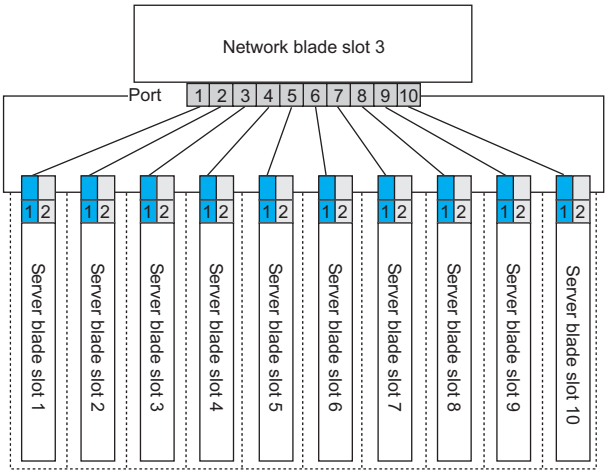


4.2.4 Fibre Channel Connection in the Chassis

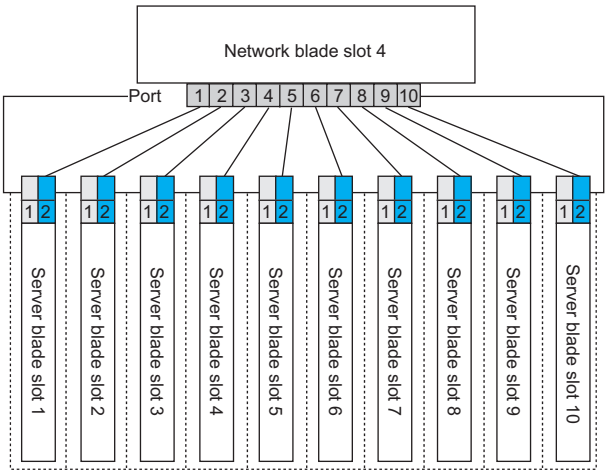
This section explains the LAN connection in the chassis for server blades and FC Pass-Thru Blades. When a Fibre Channel Expansion Board is installed in the server blade and FC Pass-Thru Blade has been installed in the chassis, the server blade and Fibre Channel port of the FC Pass-Thru Blade are connected as follows in the chassis. When installing a server blade or a FC Pass-Thru Blade, refer to the following diagram and install SFP modules to the correct position.

■ For BX620 S2 / BX620 S3 Server Blade

- **Network blade slot 3**


Network blade slot 3
Port
1 2 3 4 5 6 7 8 9 10
1 2
Server blade slot 1
Server blade slot 2
Server blade slot 3
Server blade slot 4
Server blade slot 5
Server blade slot 6
Server blade slot 7
Server blade slot 8
Server blade slot 9
Server blade slot 10

- **Network blade slot 4**


Network blade slot 4
Port
1 2 3 4 5 6 7 8 9 10
1 2
Server blade slot 1
Server blade slot 2
Server blade slot 3
Server blade slot 4
Server blade slot 5
Server blade slot 6
Server blade slot 7
Server blade slot 8
Server blade slot 9
Server blade slot 10

4.3 Installing Network Blades

This section explains how to install/remove network blades. For this server, even when the power supply of the chassis is turned on it is possible to install/remove (hot-swap/hot-plug) network blades.
For network blades not shown in this manual, refer to the manual supplied with the network blade.

4.3.1 Installing/Removing Switch Blades/GbE Pass-Thru Blades

This section explains how to install/remove Switch Blades/GbE Pass-Thru Blades.
For more details about the various blades, refer to the following manuals.

- Switch Blade: "BX600 Switch Blade (PG-SW103) Hardware Guide"
- GbE Pass-Thru Blade: manual supplied with GbE Pass-Thru Blade

■ Before installing

● Notes when installing and removing

Switch Blades can be installed/removed when the main power of the chassis is turned on. In this case note the following points.

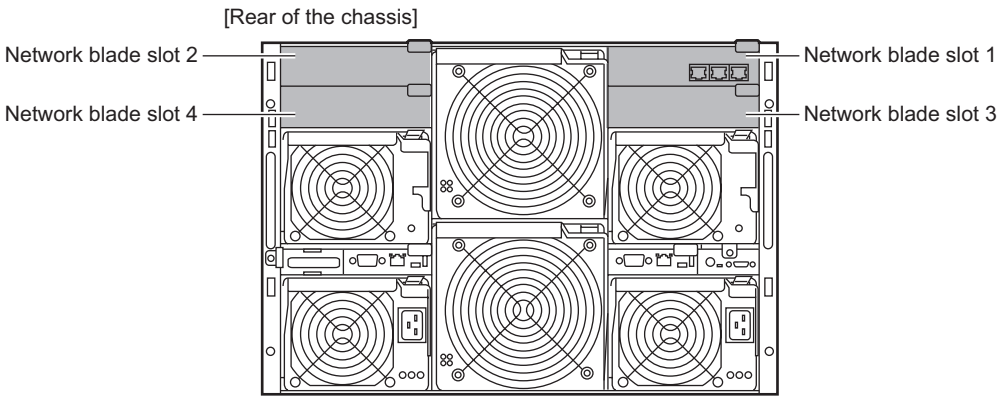
IMPORTANT

- If the server blade connected to a Switch Blade/GbE Pass-Thru Blade is operating, disconnecting the Switch Blade/GbE Pass-Thru Blade will cause LAN connection to be lost.

CAUTION

- When removing the Switch Blade/GbE Pass-Thru Blade or dummy Switch Blade, do not insert your hand into the Switch Blade slot. Doing so may cause electric shock.
- Before lifting the handle, make sure the Switch Blade/GbE Pass-Thru Blade is inserted completely to the slot.

● Switch Blade/GbE Pass-Thru Blade installation points



● Available Switch Blade/GbE Pass-Thru Blade

The following shows the type of Switch Blade/GbE Pass-Thru Blade used for this chassis.

Product name	Model
PRIMERGY BX600 Switchblade 10+3 x 10/100/1000TX layer2	PG-SW103
PRIMERGY BX600 GbE Pass-Thru Blade	PG-LNB101

POINT

- Included optional Switch Blade/GbE Pass-Thru Blade
  Before installing each blade, refer to the following and check the included options.
  - Switch Blade: "6.1.2 Switch Blade Specifications" (→pg.65)
  - GbE Pass-Thru Blade: "GbE Pass-Thru Blade (PG-LNB101) User's Guide"

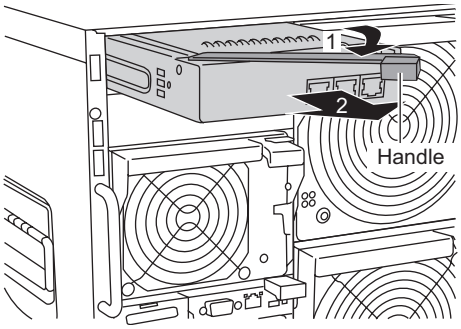
■ How to remove Switch Blade/GbE Pass-Thru Blade

1 Touch a metal part of the chassis to discharge static electricity.

2 Remove all LAN cables connected to the Switch Blade/GbE Pass-Thru Blade.

3 Remove the Switch Blade/GbE Pass-Thru Blade.

Grip and pull on the handle (1), pull the Switch Blade/GbE Pass-Thru Blade towards you and remove it (2) (The figure shows an example for Switch Blade).



4 Install the network blade/ dummy Switch Blade.

→"■ How to install Switch Blades/GbE Pass-Thru Blades" (pg.44)

→"■ How to install a FC Pass-Thru blade" (pg.47)

IMPORTANT

- When multiple Switch Blades/GbE Pass-Thru Blades are installed to the chassis, before removing, use the Switch Blade/GbE Pass-Thru Blade identification function to check the position of each blade. For details about each blade identification function, refer to "BX600 Management Blade Hardware Guide".
- After removing the Switch Blade/GbE Pass-Thru Blade or dummy Switch Blade, do not operate the chassis with an empty slot. Be sure to install a network blade or a dummy Switch Blade.

POINT

- The procedure for removing the dummy Switch Blade is the same as that for removing the Switch Blade/GbE Pass-Thru Blade. Be sure to keep the removed dummy Switch Blades for later use.

■ How to install Switch Blades/GbE Pass-Thru Blades

1 Touch a metal part of the chassis to discharge static electricity.

2 Remove the network blade/ dummy Switch Blade.

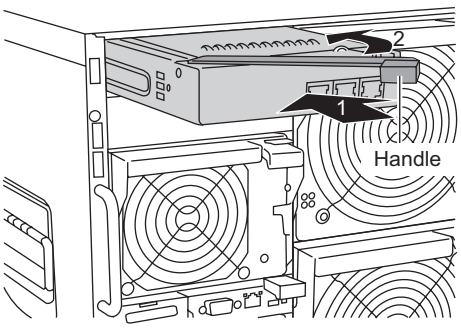
Remove any blade installed to the slot for installation.

→"■ How to remove Switch Blade/GbE Pass-Thru Blade" (pg.43)

→"■ How to remove FC Pass-Thru Blades" (pg.46)

3 Install Switch Blades/GbE Pass-Thru Blades.

Insert the Switch Blade/GbE Pass-Thru Blade and set the handle (2) (The figure shows an example using Switch Blade).



IMPORTANT

- Before installing a Switch Blade/GbE Pass-Thru Blade, check there is no dust in the blade connector.
- When installing a Switch Blade/GbE Pass-Thru Blade, after inserting it using the handle, it is necessary to press the Switch Blade in with your finger.

POINT

- The procedure for installing the dummy Switch Blade is the same as that for installing the Switch Blade/ LAN Pass-Thru Blade.

4 Install a LAN cable to Switch Blades/GbE Pass-Thru Blades.

4.3.2 Installing/Removing FC Pass-Thru Blades

This section explains how to install/remove FC Pass-Thru Blades (optional).

■ Before installing

● Notes when installing and removing

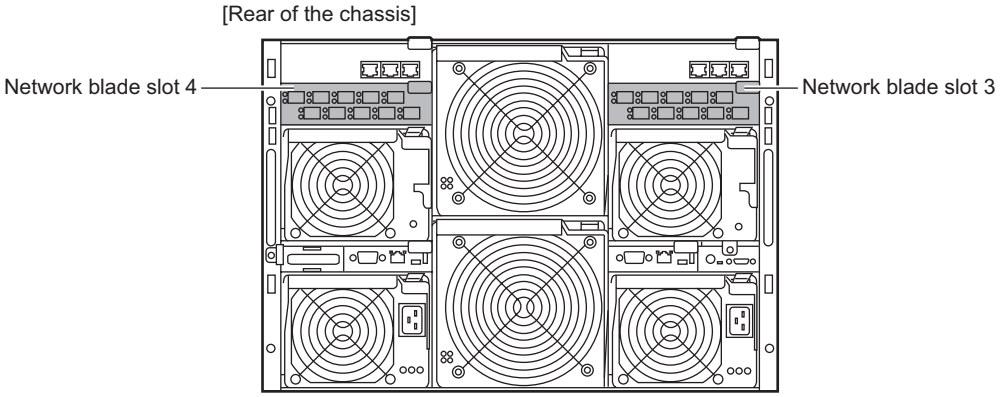
FC Pass-Thru Blades can be installed/removed when the main power of the chassis is turned on. In this case, note the following points.

CAUTION

Electric Shock

- When removing the FC Pass-Thru Blades or dummy Switch Blade, do not insert your hand into the FC Pass-Thru Blades blade slot. Doing so may cause electric shock.
- Before lifting the handle, make sure the FC Pass-Thru Blade is inserted completely to the slot.

● FC Pass-Thru Blade installation points



● Available FC Pass-Thru Blade

The following shows the type of FC Pass-Thru Blade used for this chassis.

Product name	Model
FC Pass-Thru Blade	PG-FCB101

POINT

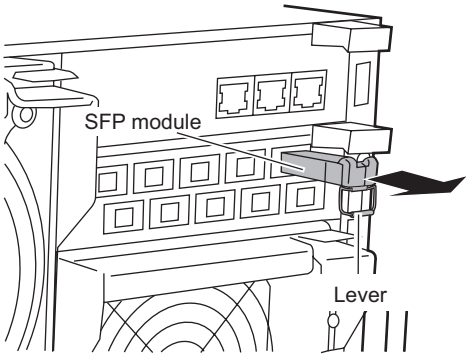
- Included FC Pass-Thru Blade options
  Before installing the FC Pass-Thru Blade, refer to "6.1.3 FC Pass-Thru Blade Specifications" (→pg.66) and check the included options.

■ How to remove FC Pass-Thru Blades

1 Touch a metal part of the chassis to discharge static electricity.

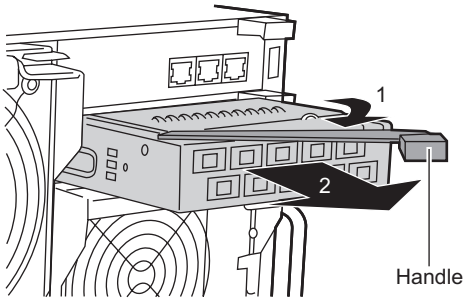
2 Disconnect the Fibre Channel cable connected to the FC Pass-Thru Blade.

3 Lower the SFP module lever, unlock the lock and remove.



4 Remove the FC Pass-Thru Blade.

Grip and pull on the handle (1), pull the FC Pass-Thru Blade towards you and remove it (2).



5 Install the network blade/dummy Switch Blade.

→"■ How to install Switch Blades/GbE Pass-Thru Blades" (pg.44)

→"■ How to install a FC Pass-Thru blade" (pg.47)

IMPORTANT

- After removing the FC Pass-Thru Blades/dummy Switch Blade, do not operate the chassis with an empty slot. Be sure to install a network blade or a dummy Switch Blade.

POINT

- The procedure for removing the dummy Switch Blade is the same as that for removing the Switch Blade. Be sure to keep the removed dummy Switch Blades for later use (→"4.3.1 Installing/Removing Switch Blades/GbE Pass-Thru Blades" (pg.42)).

■ How to install a FC Pass-Thru blade

1 Touch a metal part of the chassis to discharge static electricity.

2 Remove the network blade/ dummy Switch Blade.

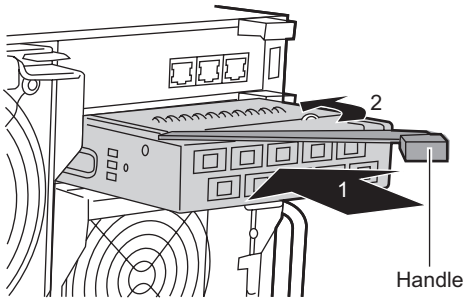
Remove any blade installed to the slot for installation.

→"■ How to remove Switch Blade/GbE Pass-Thru Blade" (pg.43)

→"■ How to remove FC Pass-Thru Blades" (pg.46)

3 Install a FC Pass-Thru Blade.

Insert the Fibre Channel Pass-Thru Blade (1) and set the handle (2).



IMPORTANT

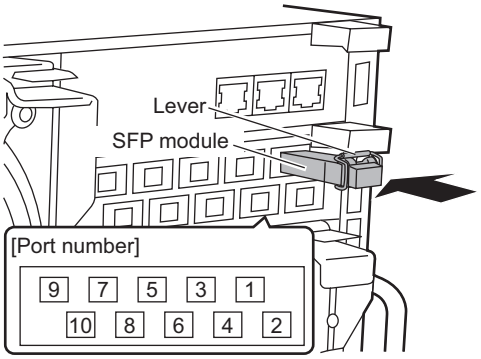
- Before installing the FC Pass-Thru Blade, check there is no dust in the blade connector.
- When installing a FC Pass-Thru Blade, it is necessary to press the FC Pass-Thru Blade in with your finger after inserting it with a handle.

POINT

- The procedure for installing the dummy Switch Blade is the same as that for installing the Switch Blade (→"4.3.1 Installing/Removing Switch Blades/GbE Pass-Thru Blades" (pg.42)).

4 Install a SFP module to FC Pass-Thru Blade.

Insert to the back of the slot while keeping the SFP module lever raised.
Connect it to the port whose number is the same as that of the server blade slot to be connected via Fibre Channel.



IMPORTANT

- Be sure to install with the lever raised. If the lever is raised after inserting the SFP module with the lever down, the lock is unlocked and the SFP module becomes loose.

POINT

- For users using the 2 Gbit/s FC I/O Module (PG-FCD101) the SFP module is supplied with the expansion board, for all other users the SFP module is sold separate.

5 Remove the cap of the SFP module and connect the Fibre Channel cable.

IMPORTANT

- Check that the Fibre Channel cable connector is inserted firmly to the back of the slot.

4.4 Installing the PSU

In this chassis, two PSUs are installed by default and a maximum of four can be installed.
Adding PSUs enables redundancy of the power supply. Install the PSUs in pairs and connect power cables to all the PSUs.
This section explains points to note when expanding the PSUs, how to install/remove and replace the PSU.

- Do not disassemble the PSU. Doing so may cause electric shock or fire.

CAUTION

Electric Shock

- When installing or removing PSUs from the server, be sure to turn off the server and all the connected devices as well as unplugging all the power cables. Failure to do so may cause electric shock (→"3.3 Turning Off the Server" (pg.26)).
  If a broken PSU is replaced when the redundant power supply is installed, the PSU can be replaced even if the power is turned on.
- When removing the PSU or dummy PSU, do not insert your hand into the PSU slot. Doing so may cause electric shock.

POINT

- Have broken PSUs replaced as soon as possible.
- Up to 10 server blades can be installed using the two default PSUs. The number of the PSUs does not limit the number of installable server blades. To configure redundant power supply, add PSUs.

4.4.1 Before Installing the PSU

Notes when redundancy of the power supply is enabled.

■ Conditions for the power redundancy function

To enable redundancy of the power supply, it is necessary to add two PSUs.

■ Available PSU

The following shows PSU types used for this chassis.

Product name	Model
Power Supply Module	PG-PU118

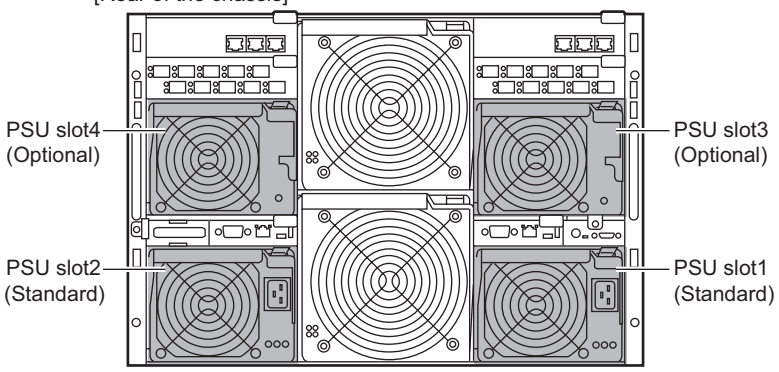
POINT

- Included PSU options
  Before installing a PSU, refer to the following to check the included options.
  - "6.1.4 PSU Specifications" (→pg.67)

■ Place and order of installation

Install PSUs in the order of the slot numbers.

[Rear of the chassis]



4.4.2 Installing/Removing the PSU

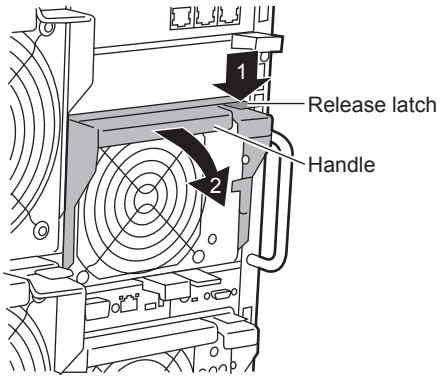
This section explains how to install/remove PSUs.

■ How to install a PSU

1 Turn off the server blade and the main power supply of the chassis.
→"3.3 Turning Off the Server" (pg.26)

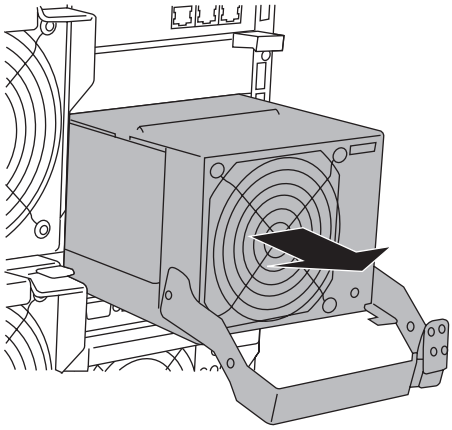
2 Touch the metal part of the chassis to discharge static electricity.

3 Press the handle release latch (1) and pull down the handle of the dummy PSU (2).



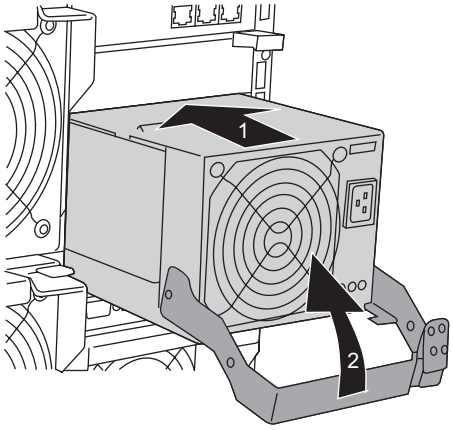
4 Remove the dummy PSU.

Remove the dummy PSU using both hands. Be sure to keep the removed dummy PSU for later use.



5 Install the PSU.

1. Check that the handle of the PSU is lowered. If not, pull it down.
2. Using both hands, insert the PSU into the PSU slot (1) and pull up the handle (2).



POINT

- When installing a PSU, check that the connector pins at the rear of the PSU are not damaged or bent.
- Check that PSU is inserted firmly to the back of the PSU slot.

6 Connect the power supply cable to the PSU.

→"Start Guide"

■ How to remove a PSU

To remove, simply reverse the installation procedure in "■ How to install a PSU" (→pg.50)

IMPORTANT

- Do not operate when the PSU or dummy PSU has been removed.

4.4.3 Replacing a PSU During Redundant Power Configuration

CAUTION

- Do not operate when the PSU or dummy PSU has been removed.

If one or two PSUs fail when the redundant power supply is configured, the PSU can be replaced without turning off the power of the device. Check the location of the faulty PSU using the LED of the failed PSU or ServerView.
After removing the PSU, be sure to replace it with a new unit.

IMPORTANT

- When installing/removing a PSU during operation, first check that the system unit and other PSU/dummy PSU are operating.

■ How to replace a PSU

1. Disconnect the power cable of the PSU.
   →"Start Guide"
2. Remove the broken PSU.
   →"■ How to remove a PSU" (pg.51)
3. Install the new PSU.
   →"■ How to install a PSU" (pg.50)
4. Connect the power supply cable to the replaced PSU.

4.5 Installing Advanced KVM Module

One KVM module is installed to the chassis by default, which enables to input/output using keyboard/display/mouse (KVM) of each server blade.
When an optional advanced KVM module is installed, apart from normal KVM input/output, it is possible to redirect each server blade console from remote terminals via LAN (graphic mode console redirection), and to emulate (virtualize) the floppy disk drive/CD-ROM drive connected to the remote terminals and the server blades can share the drives.

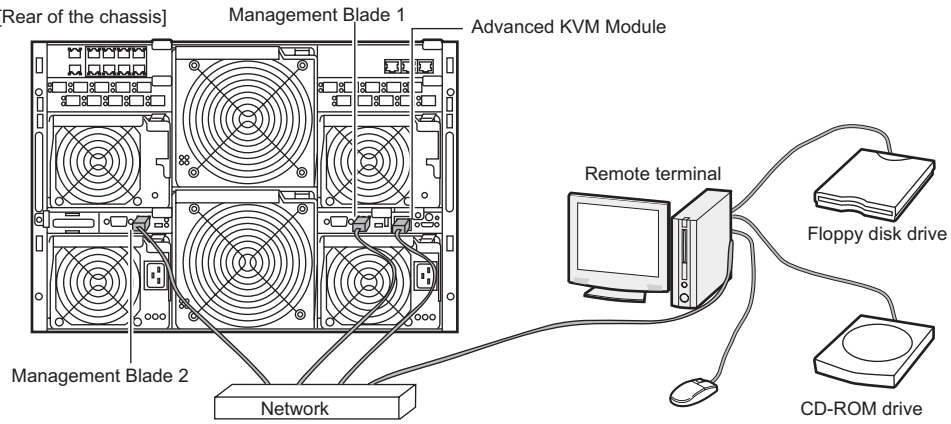
The advanced KVM module of the server supports the following functions:

- Graphic mode console redirection
- Remote USB floppy disk emulation
- Remote USB CD-ROM emulation
- Remote boot function from the emulated USB device

4.5.1 Before Installing Advanced KVM Module

■ KVM module connection

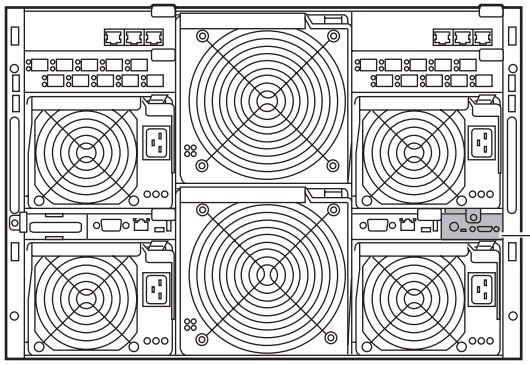
Connect the management blade, advanced KVM module, remote terminal, and hub to the same network as shown in the figure below.



■ KVM module installation points

Install the KVM module in the KVM module slot on the rear of the chassis.

[Rear of the chassis]



■ Available advanced KVM module

The following shows the type of advanced KVM module used for this chassis.

Product name	Model
PRIMERGY BX600 KVM Module	PG-KVB101

POINT

- Included advanced KVM module options
  Before installing an advanced KVM module, refer to "6.1.5 Specification of Advanced KVM Module" (→pg.68) to check the included options.

4.5.2 Installing/Removing Advanced KVM Module

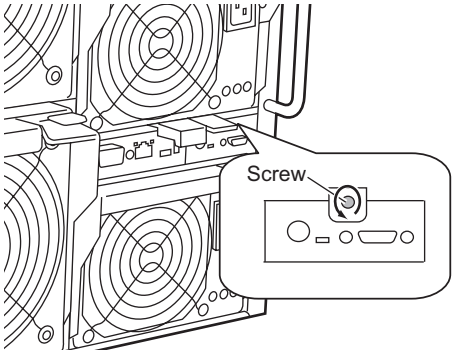
■ How to install an advanced KVM module

1 Turn off the server blade and the main power supply of the chassis.

→"3.3 Turning Off the Server" (pg.26)

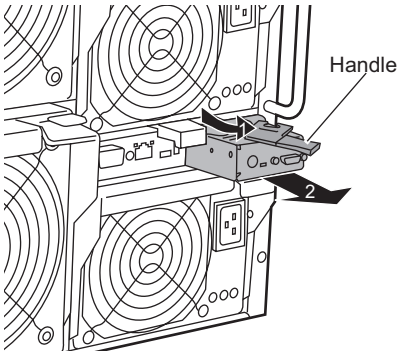
2 Touch the metal part of the chassis to discharge static electricity.

3 Remove the screws fixing the KVM module installed by default.



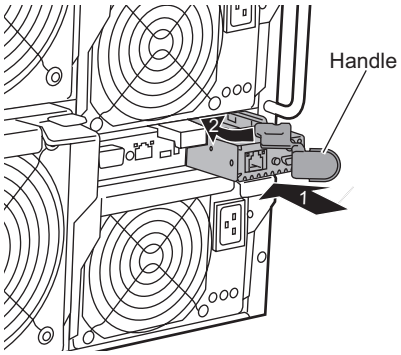
4 Remove the default KVM module.

Hold the handle out (1) and pull the KVM module forward to remove (2).

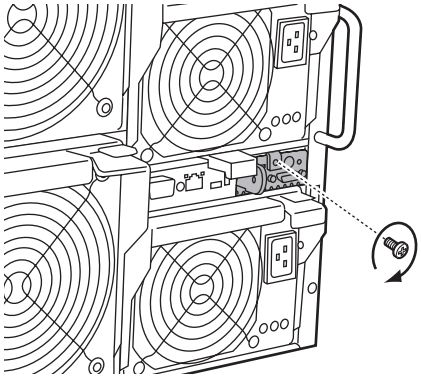


5 Install an advanced KVM module.

Press the KVM module while the handle is opened forward (1) and set the handle inside (2).



6 Secure the module using screws removed in step 3.



■ How to remove an advanced KVM module

To remove an advanced KVM module, follow the removal procedures for the default KVM module.

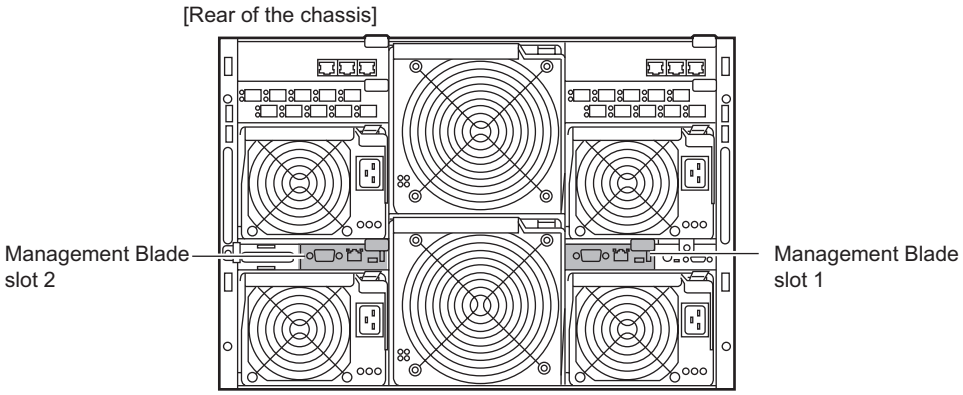
4.6 Replacing the Management Blade

In this chassis two Management Blades are installed by default and the management /monitoring function is redundant.
It is necessary to replace a broken Management Blade. Contact an office listed in the "Contact Information" of "Start Guide".

If one Management Blade fails, it is possible to replace the Management Blade without turning off the main power supply of the chassis or the server blade (hot-swap/hot-plug responsive). Check the slot position of the failed Management Blade using the Management Blade error LED or ServerView.
For details about Management Blade, refer to "BX600 Management Blade Hardware Guide".

■ Management Blade slot

Management Blades are installed to all the slots by default.



IMPORTANT

- Always use the same Management Blade firmware version (except for when updating firmware).

POINT

- Have broken PSUs replaced as soon as possible.

4.7 Replacing the System Fan Unit

This server supports the system fan redundancy function and "system down" can be prevented even if one of the fans fails.
Also, replacement can take place while the main power is turned on (hot-swap/ hot-plug).
It is necessary to replace a broken system fan. Contact an office listed in the "Contact Information" of "Start Guide". Check which system fan has failed using the rear LED or ServerView.

CAUTION

Electric Shock

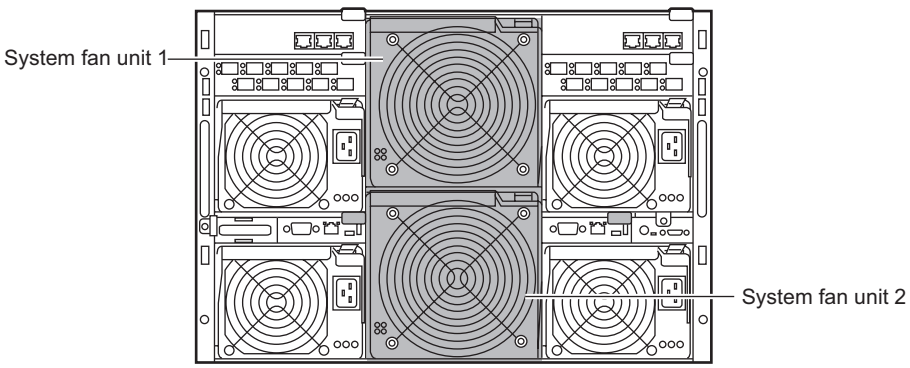
- Replace the fan unit within 2 minutes of removing the broken one from the server.
- When removing a fan unit during operation always check that one fan is operating normally.
- When removing the fan unit, do not touch the fan unit connector of the chassis. Doing so may cause electric shock.

■ System fan unit redundancy

System fan is configured as follows.

- System fan unit 1 (internal fan × 2)
- System fan unit 2 (internal fan × 2)

[Rear of the chassis]



IMPORTANT

- If even one unit that makes up the system fan unit fails or is removed, redundancy is lost.

Chapter 5

Maintenance

This chapter explains how to perform daily maintenance and the maintenance information.

5.1 Cleaning 60
5.2 System Event Log 62

5.1 Cleaning

To prevent trouble from occurring, clean the server regularly.
This server should be cleaned as follows.

WARNING

Electric Shock

- Before cleaning, turn off the chassis and unplug the power cables from the outlets. Also power off peripherals and remove them from the server (→"3.3 Turning Off the Server" (pg.26)). Failure to do so may cause electric shock.

5.1.1 Cleaning the Chassis

Wipe with a soft, dry cloth. For stains that do not come off with a dry cloth, wipe with a cloth lightly dampened with a mild detergent. Once the stain has been removed, wipe off any remaining detergent with a cloth dampened with water. When wiping the server, be sure that no moisture enters the chassis. Use a vacuum cleaner periodically to prevent dust buildup in ventilation holes.

POINT

- In dusty environments, dust piles up on the front and rear panels of the server over short periods. Install the server in a different location to avoid failures.

5.1.2 Cleaning the Server Interior

In dusty environments, dust deposits in the server. Dust deposits may cause a server failure, fire, or electric shock. To keep the PRIMERGY server in good condition, use a vacuum cleaner periodically to remove dust deposits.

POINT

- Cleaning components
  CPUs: Dust deposits must be removed because it will impair the cooling performance.
  Fans: Remove dust from and around the fans.
  Memory/expansion cards: Remove dust between memory modules and between expansion cards. Remove dust from the connector before adding a memory module or an expansion card.
  Internal hard disk units: Remove dust deposits from units and devices.

WARNING

Electric Shock

- Do not disassemble the PSU when cleaning the server interior. Doing so may cause failures or electric shock.

IMPORTANT

- Be careful when removing components such as CPUs, memory modules, or hard disk units. Be sure to install parts and cables in the original position.
- Leaving dust on the server can cause failure. Be sure to remove any dust from the server.

5.1.3 Cleaning the Floppy Disk Drive

Prolonged use of the floppy disk drive accumulates dust on the device head (the part which reads/writes data). A dirty head can impair the ability to read/write data to/from a floppy disk correctly. Clean the head once every three months.

5.1.4 Optional Devices

For details about cleaning optional devices, refer to the "PRIMERGY ServerBooks" supplied with the server, and the "Supplement" supplied with each option.

5.2 System Event Log

The chassis management is performed on the Management Blade. For event logs relating to the chassis, refer to the Management Blade event logs.
For details, refer to "BX600 Management Blade Hardware Guide".

Chapter 6

Technical Information

This chapter explains the specifications and operational notes of the server.

6.1 Specifications 64
6.2 Number of Server Blades that can be Installed 69
6.3 Global Viewer 70
6.4 Non-durable Components 81

6.1 Specifications

This section describes the specifications of the chassis and optional devices.

6.1.1 Server Specifications

The specifications for the chassis are shown in the table below.
For details about blades and peripheral devices, refer to the applicable User's Guide.

Item			Functions and Specifications
Product ID			PGUR3SC2
BladeSlot	Server blade		Maximum 10 units
		Redundancy	No
		Hot plug	Yes
	Switch Blade		Standard: 0 (Max.: 4)
		Redundant	Depending on network configuration
		Hot plug	Yes
	GbE Pass-Thru Blade		Standard: 0 (Max.: 4)
		Redundant	Depending on network configuration
		Hot plug	Yes
	Management Blade		Standard: 2 (Max.: 2)
		Redundant	Yes
		Hot plug	Yes
	FC Pass-Thru Blade		Standard: 0 (Max.: 2)
		Redundant	Depending on network configuration
		Hot plug	Yes
	KVM Module (Adv.KVM Module (option))		Standard: 1 (Max.: 1)
		Redundant	No
		Hot plug	No
External I/O port *1			Keyboard, mouse, video, LAN × 1 (when adv.KVM module is installed), SCSI × 2 (when SCSI module is installed)
Keyboard / Mouse			Option
Dimension (Width × Depth × Height)			446 × 735 × 308 mm (7U)
Weight			Maximum 130 kg (server blade installation)
Power consumption *2			Max. 5600W (20160kJ/h)
Power supply			Input voltage: 200–240V AC (50/60Hz) Output voltage: maximum 2100W
PSU			Standard: 2, Max.: 4 Third and fourth units have redundant power (Hot-plug compatible)
Redundant fan			System fan unit (fan × 2) × 2 PSU (fan × 3) Dummy PSU (fan × 3)

*1: Switch the KVM inputs/outputs for 10 server blades and use them.
*2: Power consumption is the maximum power consumption of the PSUs.
The specifications for this chassis are subject to be updated without any notice. Please be forewarned.

6.1.2 Switch Blade Specifications

This section explains the specifications and items supplied with the Switch Blade. When you have bought a Switch Blade as a standard option, check that the following items are supplied with it before use.
Please contact an office listed in the "Contact Information" of "Start Guide" if any parts are missing.

■ Packaged Items

- Switch Blade (1)

■ Specifications

Item		Function/specification
Product ID		PG-SW103
I/O port	Internal	10 ports (1Gbps)
	External	3 ports (1000BASE-T/100BASE-TX/10BASE-T selective)
Dimension (W × D × H)		35 × 250 × 130 mm (not including the protruding part)
Weight		880g

6.1.3 FC Pass-Thru Blade Specifications

This section explains the specifications and items supplied with the FC Pass-Thru Blade.
When you have bought a FC Pass-Thru Blade as a standard option, check that the following items are supplied with it before use.
Please contact an office listed in the "Contact Information" of "Start Guide" if any parts are missing.

■ Packaged Items

- FC Pass-Thru Blade (1)

■ Specifications

Item		Function/specification
Product ID		PG-FCB101
I/O port	Internal	10 ports (Max 2Gbps)
	External	10 ports (2Gbps Fibre Channel SFP cage)
Dimension (W × D × H)		35 × 250 × 130 mm (not including the protruding part)
Weight		860g

6.1.4 PSU Specifications

This section explains the specifications and items supplied with the PSU.
When you have bought a PSU as a standard option, check that the following items are supplied with it before use.
Please contact an office listed in the "Contact Information" of "Start Guide" if any parts are missing.

■ Packaged Items

- PSU (2)
- 200V power cable * (2)

*: The attached power cables cannot be used.
Prepare power cables that conform with the standards in your country.

■ Specifications

Item	Function/specification
Product ID	PG-PU118
Input voltage	200–240V AC (50/60Hz)
Power capacity	2100W (during 200V operations)
Dimension (W × D × H)	130 × 230 × 98 mm (not including the protruding part)
Weight	2.9 kg

6.1.5 Specification of Advanced KVM Module

This section explains the specifications and items supplied with the Advanced KVM Module.
When you have bought an Advanced KVM Module as a standard option, check that the following items are supplied with it before use.
Please contact an office listed in the "Contact Information" of "Start Guide" if any parts are missing.

■ Packaged Items

- Advanced KVM Module (1)

■ Specifications

Item	Function/specification
Product ID	PG-KVB101
I/O port	Keyboard/ Mouse (PS/2), Video output 10BASE-T/100BASE-TX LAN connector
Dimension (W × D × H)	54 × 249 × 23.7 mm
Weight	300g

6.1.6 Power Cord Selection

Use power cables that conform with the commercial power supply standard of your country.
They should also meet the following specifications.

Item	Specification
PSU inlet configuration	IEC320-C19
Current capacity	16A
Voltage	200–240V AC

6.2 Number of Server Blades that can be Installed

A maximum of 10 server blades can be installed on this chassis. The number of Server blades that can be installed is limited by the Server blade configuration. Read this section and then design the system when choosing configurations or installing more server blades or switch blades.

CAUTION

- When additionally purchasing a server blade, check the number of server blades. If there are too many server blades, the safety mechanism of the power control device may prevent the power of the server blade being turned on.

IMPORTANT

- When using the VLAN function of the Switch Blade to split the network into two or more, a server blade cannot be installed to server blade slot 5.
- BX600 server blade cannot be installed to this chassis.
- Refer to the following URL for details about how to estimate how many server blades can be installed.
  http://primergy.fujitsu.com

6.3 Global Viewer

For setting the advanced KVM module, web UI in Management Blade and Global Viewer are used. This section explains Global Viewer.
For operations of Management Blade, refer to "BX600 Management Blade Hardware Guide".

6.3.1 Overview

Global Viewer is software to redirect the window display of the server blade.
From the drop down menu, it is possible to select a server blade for the keyboard/mouse/display output and to emulate the volume.

■ Support Specifications

Specifications, such as resolution, supported by the Global Viewer are as follows.
Screen redirection and VGA output are shared by all server blades and only one server blade can use the device at a time.

Item	Description
Frame resolution	Text mode: 640 × 400 Graphic mode: 640 × 480, 800 × 600, 1024 × 768
Frame frequency	56Hz, 60Hz, 70Hz, 72Hz, 75Hz, 85Hz
RGB color bits	9 bits (3:3:3 color)
Frame transmission rate	12 to 20 frames per second
Video mode	text mode, graphic mode

The following indicates the various modes that are supported at each resolution.

Resolution	Horizontal Frequency (KHz)	Refresh Rate (Hz)
640×400	31.5	70.1
640×480	43.3	85.0
	37.5	75.0
	37.9	72.8
	31.5	59.9
800×600	53.7	85.1
	46.9	75.0
	48.1	72.2
	37.9	60.3
1024×768	68.7	85.0
	60.0	75.0
	56.5	70.1
	48.4	60.0

6.3.2 Checking the Operating Environment

The required conditions for the client computer (remote terminal) to operate Global Viewer are as follows:

- Windows OS is running
- Internet Explorer is available

Before starting Global Viewer, check the following settings as well.

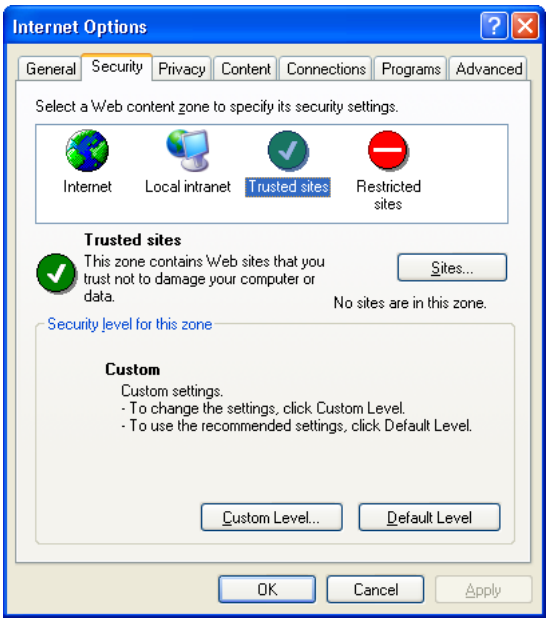
- ActiveX control of the client computer is set to enabled.
  →"■ Setting ActiveX Control (Client)" (pg.71)
- Mouse pointer acceleration of the server blade to be redirected is set to disabled.
  →"■ Setting Mouse Pointer (Server Blade)" (pg.73)

■ Setting ActiveX Control (Client)

Limit to ActiveX controls in the trusted sites of the client computer.
Follow the procedures below to add the advanced KVM module to the trusted sites and set ActiveX controls of the trusted sites to enable.

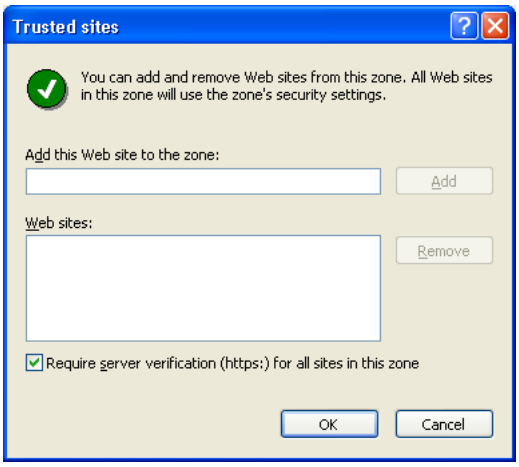
1 In the Internet Explorer window, click [Tools] → [Internet Options...].

2 Click [Security] tab.
Contents in the [Security] tab appears.



3 Click "Trusted sites" and click the [Sites...] button.

"Trusted sites" window appears.


Trusted sites
You can add and remove Web sites from this zone. All Web sites in this zone will use the zone's security settings.
Add this Web site to the zone:
Add
Web sites:
Remove
Require server verification (https:) for all sites in this zone
OK
Cancel

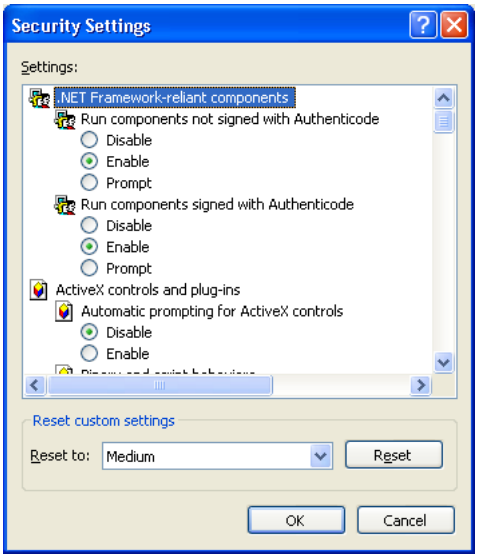
4 Enter each item.

1. Uncheck "Require server verification (https:) for all sites in this zone" checkbox.
2. In "Add this Web site to the zone:", enter the IP address of the advanced KVM module in the "http://(IP address)" format, and click [Add].

5 Check that the address added to the Web site exist, and click [OK].

6 In "Internet Options" window, click [Custom Level...].

"Security Settings" window appears.



7 Set all ActiveX controls download and execution to enable, and click [OK].

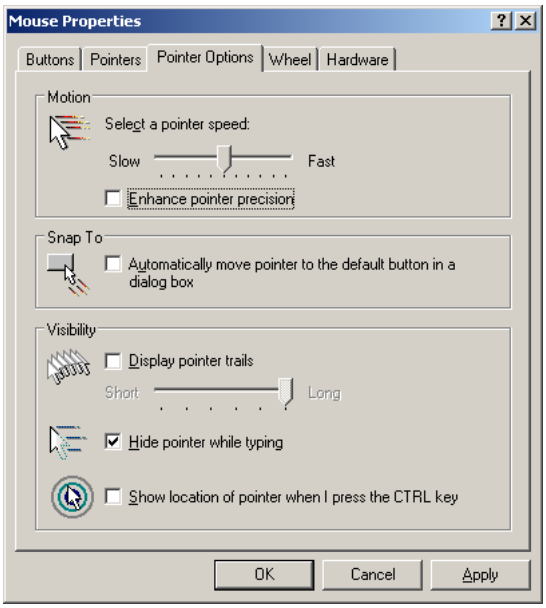
■ Setting Mouse Pointer (Server Blade)

For the server blade to be redirected using the advanced KVM module, mouse pointer acceleration must be set to disable because the server blade and the mouse of the client computer are synchronized. Follow the procedures below for setting.

● Windows Server 2003

1. From the start menu, click [Control Panel] → [Mouse].
   "Mouse Properties" window appears.

2. Click [Pointer Options] tab.
   "Pointer Options" tab contents appear.



3. Uncheck "Enhance pointer precision" if checked.

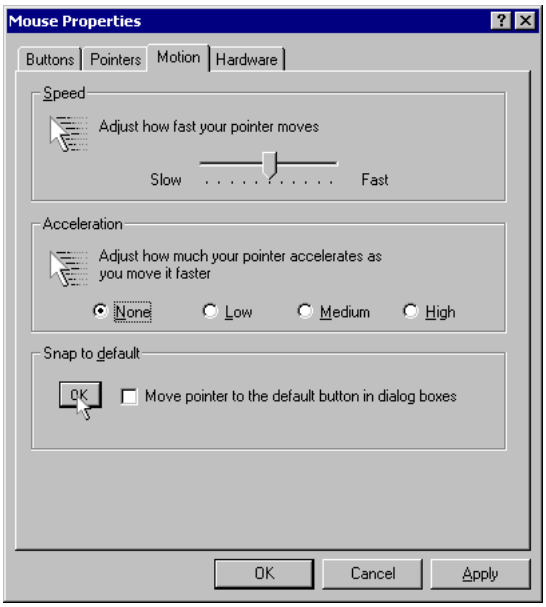
4. Click [OK].

● Windows 2000 Server

1 From the start menu, click [Setting] → [Control panel].

2 Double click [Mouse].
"Mouse Properties" window appears.

3 Click [Motion] tab.
"Motion" tab contents appear.



4 Set the speed to 50%, and the acceleration to "None".

5 Click [OK].

● Linux

For X Window operating system on Linux, execute the following command:

```
>xset m 1
```

To automate this setting, it is recommended to describe the following in /etc/profile:

```
if [ $DISPLAY ] ; then
  xset m 1
fi
```

POINT

- When installing an OS to the server blade on the redirection window of the advanced KVM module (graphical mode), mouse synchronization cannot be performed during OS installation. When installing Windows, use a keyboard. When installing Linux, install in text mode.

6.3.3 Startup Procedure

The following shows how to startup Global Viewer.
For operations of Management Blade, refer to "BX600 Management Blade Hardware Guide".

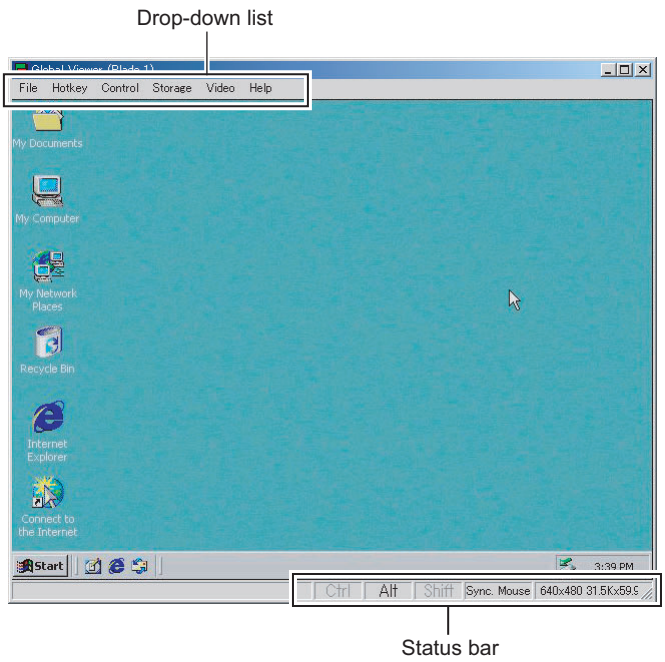
1. Start Web UI of Management Blade.

2. From the setting item menu, select "KVM_Config" in Adv.KVM blade group.
   "KVM Configuration" window appears.

3. Click [Launch] in "KVM Redirection".
   Global Viewer starts, and the server blade window currently selected for KVM appears.

6.3.4 Window

This section explains Global Viewer window displays.

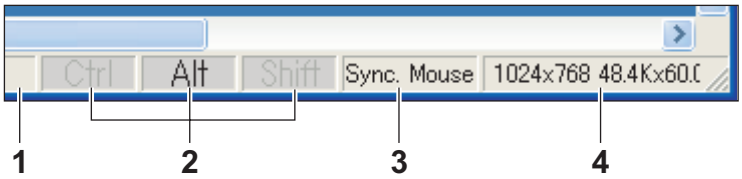


■ Drop-down list

Drop-down list is used to set Global View.
For details of each menu, refer to "6.3.5 Global Viewer Setting Menu" (→pg.77).

■ Status bar

The following shows each area displayed on the status bar.



1	Message area An area that displays various messages
2	Key code setting area This area is used to combine set keys with mouse click and key operations from the client computer. Clicking [Ctrl], [Alt], or [Shift] switches the target key and the operating key is highlighted. Operation example: To operate [Shift] + [A], press [A] while selecting "Shift".
3	Mouse synchronization area Clicking this area synchronizes the server blade and the mouse pointer of the client computer.
4	Window setting area Window settings to be redirected appears.

● Mouse synchronization

To operate console smoothly, it is necessary to synchronize the mouse pointer ( ) of the server blade and mouse pointer ( ) of the management client.

IMPORTANT

- Set the mouse pointer acceleration of the server blade to disabled. If it is set to enabled, mice of the server blade and the management client do not synchronize.

There are four ways to synchronize the mice.

- From the drop-down menu, click [Control] → [Mouse Sync].
- Click "Sync.Mouse" on the status bar.
- Double click the left and right buttons on the mouse simultaneously.
- Move the mouse pointer in all areas (menu bar, scroll bar, and status bar) on the Global Viewer window.

POINT

- When using Global Viewer window, it is necessary to synchronize the mice at all times.

6.3.5 Global Viewer Setting Menu

This section explains the Global Viewer setting menu.
Global Viewer settings can be performed from the drop-down menu at the top of the screen.

Item	Description
File	Clicking "Exit" exits Global Viewer and closes the session.
Hotkey	Key code setting for entry after emulating the redirected server blade.→"■ Hotkey menu" (pg.77)
Control	Settings related to emulation and redirection.→"■ Control menu" (pg.78)
Storage	Settings related to CD-ROM drive and floppy disk drive of the client computer to be emulated.→"■ Storage menu" (pg.79)
Video	Save/read the window display and setting values.→"■ Video menu" (pg.80)
Help	Clicking "About" displays Global Viewer firmware version.

■ Hotkey menu

Clicking an item in the menu emulates its key code and enters to the redirected server blade.
The following shows each key code content.

Item	Description
Full Screen	Displays full screen of Global Viewer window.
Alt-Enter	[Alt] + [Enter] key
Alt-Escape	[Alt] + [Escape] key
Alt-F4	[Alt] + [F4] key
Alt-Space	[Alt] + [Space] key
Alt-SysReq	[Alt] + [SysReq] key
Alt-Tab	[Alt] + [Tab] key
Ctrl-Escape	[Ctrl] + [Escape] key
Ctrl-Tab	[Ctrl] + [Tab] key
Print Screen	[Print Screen] key
Ctrl-Alt-Backspace	[Ctrl] + [Alt] + [Backspace] key
Ctrl-Alt-Delete	[Ctrl] + [Alt] + [Delete] key
Ctrl-Alt-Escape	[Ctrl] + [Alt] + [Escape] key
Ctrl-Alt-F1	[Ctrl] + [Alt] + [F1] key
Ctrl-Alt-F2	[Ctrl] + [Alt] + [F2] key
Ctrl-Alt-F3	[Ctrl] + [Alt] + [F3] key
Ctrl-Alt-F4	[Ctrl] + [Alt] + [F4] key
Ctrl-Alt-F5	[Ctrl] + [Alt] + [F5] key
Ctrl-Alt-F6	[Ctrl] + [Alt] + [F6] key
Ctrl-Alt-F7	[Ctrl] + [Alt] + [F7] key
Ctrl-Alt-F8	[Ctrl] + [Alt] + [F8] key
Ctrl-Alt-F9	[Ctrl] + [Alt] + [F9] key
Ctrl-Alt-F10	[Ctrl] + [Alt] + [F10] key

■ Control menu

Settings related to emulation and redirection.

Item	Setting value	Description
KVM Switch	Blade 1 - Blade 10	Select a server blade to redirect. ●will be displayed at the selected blade number. A grayed out server blade indicates that no server blade is installed in the slot.
USB Switch	Blade 1 - Blade 10	Select a server blade to connect to the emulated device. ●will be displayed at the selected blade number. A grayed out server blade indicates that no server blade is installed in the slot. When a server blade is selected and the same server blade is selected again, emulated USB device will be removed.
Image Response Time	• Fast (at time of purchase) • High • Middle • Low	Set the window image response time. The faster the response time is set, the more LAN bandwidth increases.
Image Sampling	• 4:1:1 (at time of purchase) • 4:4:4	Set the color strength. The "4:1:1" setting decreases LAN bandwidth.
Image Quality	• Best (at time of purchase) • High • Better • Normal	Set the window image quality (brightness, sharpness, etc.).
Connecting Timeout Setting	0 sec - 600 sec	Set the timeout (second) from disconnection until reconnecting Global Viewer.
Mouse Sync	-	Synchronize mice of the client computer and the redirected server blade.

■ Storage menu

Settings related to the CD-ROM drive and floppy disk drive of the client computer to be emulated.

Item	Description
USB CD-ROM	Specify the CD-ROM drive of the client computer to be emulated. **Note:** ▸ Select the server blade to connect the virtual CD-ROM using "USB Switch" in "■ Control menu" (→pg.78).
USB Floppy	Set the floppy disk drive of the client computer to be emulated. →"• USB Floppy submenu" (pg.79)

• USB Floppy submenu

Set the floppy disk drive of the client computer to be emulated.

Item	Setting value	Description
Floppy Emulation	• No Emulation • Floppy (A:) • Open HDD Image File	Select the floppy disk drive to be emulated. The selected floppy disk and floppy disk image are copied to the advanced KVM module memory, and emulated as a remote USB floppy of the specified server blade until the Global Viewer session ends. • No Emulation: They are not emulated. • Floppy (A:): Floppy disk drive in A drive is emulated (Displays the number of drives that the client computer recognizes). • Open HDD Image File: Previously saved hard disk images are emulated. **Note:** ▸ Performing emulation only does not enable the floppy disk drive to be used. It is necessary to mount the floppy disk drive and to select USB Switch.
Mount Floppy Drive ←→ UnMount Floppy Drive	-	Mount/unmount the virtual floppy disk drive to the advanced KVM module. • Mount Floppy Drive: Mount the virtual floppy disk drive to the advanced KVM module. • UnMount Floppy Drive: Unmount the virtual floppy disk from the advanced KVM module. **Note:** ▸ Mounting the drive only does not enable the floppy disk drive to be used. It is necessary to emulate data and to select USB Switch.
Save Image To	-	Save the emulated floppy data (data read in the advanced KVM module) in the floppy disk drive of the client computer or in the hard disk as a floppy image. **Note:** ▸ If a virtual floppy disk drive is unmounted without performing this operation when the emulated floppy data has been modified, the modified data will not be saved. ▸ This cannot be selected without emulating floppy data.
UFI Command Block [for Linux Installation]	-	Set this to enabled only when Linux is installed via the advanced KVM module. Click this item to enable it. After it has been enabled a check mark is displayed for the item.

■ Video menu

Set the window display and save/read the setting values.

Item	Description
Brightness	Adjust brightness of the Global Viewer window by operating primitive signal, red, green, and blue scale bars separately.
Contrast	Adjust contrast of the Global Viewer window by operating primitive signal, red, green, and blue scale bars separately.
Auto Adjust	Automatically adjust the window brightness and contrast. During the adjustment for approximately 10 seconds, the window is locked.
Load Default Setting	Load the default settings.
Save Configuration	Save the current setting information.

6.4 Non-durable Components

This server monitors the status of non-durable components such as power supply and system fans, sending notification when they need to be replaced. Management Blade performs monitoring and notifying.

The following functions are available.

- By this, the server can evade shutdowns due to failure of these component.

The following are the non-durable components.

- PSU, dummy PSU
- System fan

■ Management Blade Settings for Non-durable Components

- Perform Management Blade settings for non-durable components before operating the server. For details, refer to "BX600 Management Blade Hardware Guide".
- If you use this server without performing Management Blade settings, no notification will be sent, which informs when a component has reached the near-end of its lifetime. This will result in unnecessary system shutdowns.
- Non-durable components are supposed to be replaced in the periodical maintenance performed after these messages appear. These parts can be continuously used for approximately one year after the message.

6.4.1 Component Lifetime Information Browse/Setting Menu

The running hours and lifetime of the non-durable components of this server can be displayed using the management tools from the management terminal.
The following two items must be checked or set when commencing use of this server and when such a component is being replaced. For details about display methods and operations, refer to "BX600 Management Blade Hardware Guide".

- **Live Time (running hours)**
  Displays the running hours of the system fan unit, PSU, and dummy PSU in this server. It is measured in units of hours (hrs).
  Set running hours to 0 using [Reset] when replacing the system fan unit, PSU, and dummy PSU in this server.
- **Live Time Limited Count (lifetime)**
  Displays the lifetime of the system fan unit, PSU and dummy PSU in this server. It is measured in units of hours (hrs). If running time exceeds this value, event log is recorded/notified.

■ Resetting lifetime

When operating the system, if Management Blade information is lost, it is necessary to reset lifetime. Calculation is as follows: Enter the calculated value in Time Limited Count (lifetime) for the system fan unit, PSU, and dummy PSU.

Lifetime= 26000 - months of use × 30 × 24 × usage ratio/month × usage ratio/day

- **Example**

  When the system running for eight hours per day and twenty days per month loses information after four months of use:

  Lifetime = 26000 - months of use (4) × 30 × 24 × usage ratio/month (20/30) × usage ratio/day (8/24) = 25360 hours

POINT

- The power supply and fans lifetimes are suspended only when the main power is disconnected.

IMPORTANT

- Do not change the lifetime. If changed replacement notification may not be performed correctly. Only change the value when running hours information has been lost. Running hours information is lost only when the front control board of the chassis is replaced.

The following shows the lifetime for non-durable components in this server. Use them as a rough estimate.

Note that the values listed below correspond to a temperature environment ranging from 10-35°C. These values will drop by approximately half with a 10°C increase in temperature.

non-durable component	Life time	Comment
PSU	approx. 26,000 hrs	8 hr/day: approx. 9 yrs 24 hr/day: approx. 3 yrs
Dummy PSU		

POINT

- The lifetime of non-durable components fluctuates according to the ambient temperature.
  The lifetime of such components is calculated on the assumption that the server is used at an annual average temperature of 25°C. Thus, if the server is used in an environment where the annual average temperature exceeds 25°C, the lifetime can be shorter.
  In general, if the temperature increases by 10°C (i.e. an annual average temperature of 35°C), the lifetime of non-durable components will be reduced to approximately half.

6.4.2 Messages Displayed When a Non-durable Components Life has been Reached

The following explains the messages displayed when the non-durable components life has been reached. Messages are recorded to the event log. The following methods of notification are also available.

- Notifying messages using SNMP trap
- Notifying by e-mail using the alarm handler function
  Set the alarm handler before operating the server. Also set the alarm handler to notify MINOR events.

If a message is recorded/displayed, replace the non-durable component that has reached its service life.

POINT

- For details about the SNMP settings, refer to "BX600 Management Blade Hardware Guide" and "ServerView User's Guide".
- For details about alarm handler settings, refer to "BX600 Management Blade Hardware Guide".

■ Messages displayed when the replacement period for non-durable components has been reached

The Following table explains the messages that are recorded in the event log of the Management Blade, and notified by the alarm handler, when non-durable components lives are reached.
If a message is displayed, replace the component that has reached its service life.
The following table lists each message and the appropriate action.

Message Description	Action
Rear fans # live time has exceeded the limited count.	System fan unit lifetime has been reached (# indicates the number of the system fan unit). Contact an office listed in the "Contact Information" of "Start Guide".
Power Supply # live time has exceeded the limited count.	PSU/dummy PSU lifetime has been reached (# indicates the number of the PSU slot). Contact an office listed in the "Contact Information" of "Start Guide".

■ Messages notified by SNMP trap

The following explains the messages notified by SNMP trap when the lifetime of non-durable components has been reached.
If a message is displayed, check the event log and replace the recorded component that has reached its service life.
The following table lists each message and the appropriate action.

Message Description	Action
Servers % live time has exceeded the limited count.	This message signals that a component's service life has been reached. Check the event log and contact an office listed in the "Contact Information" of "Start Guide". The Management Agent System Name is displayed in "%s".

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PRIMERGY BX600 S2 Blade Server System Unit

Hardware Guide
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